LINGUA FRANCA

A Common Language for Conservators of Photographic Materials

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Processes

DAGUERREOTYPE

Dates of major use: 1840-1865

Inventor: Louis Jacques Mandé Daguerre (1839)

A daguerreotype is an image formed on a copper plate coated with a thin layer of silver, which can appear to be a positive or a negative depending on the angle it is viewed. They were often hand-coloured. Because the silver-coated plates of daguerreotypes were extremely fragile, they were always protected under glass.

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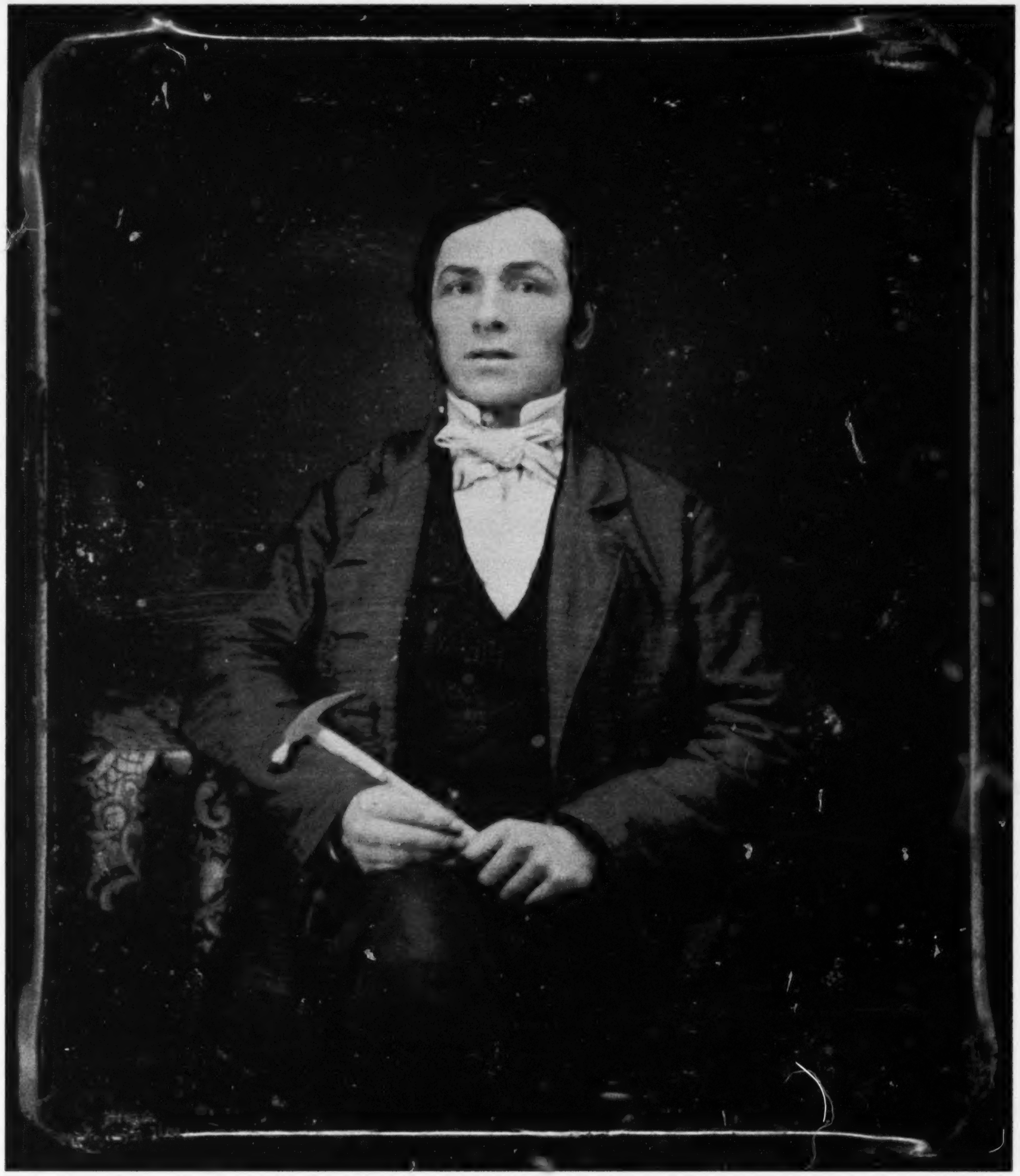
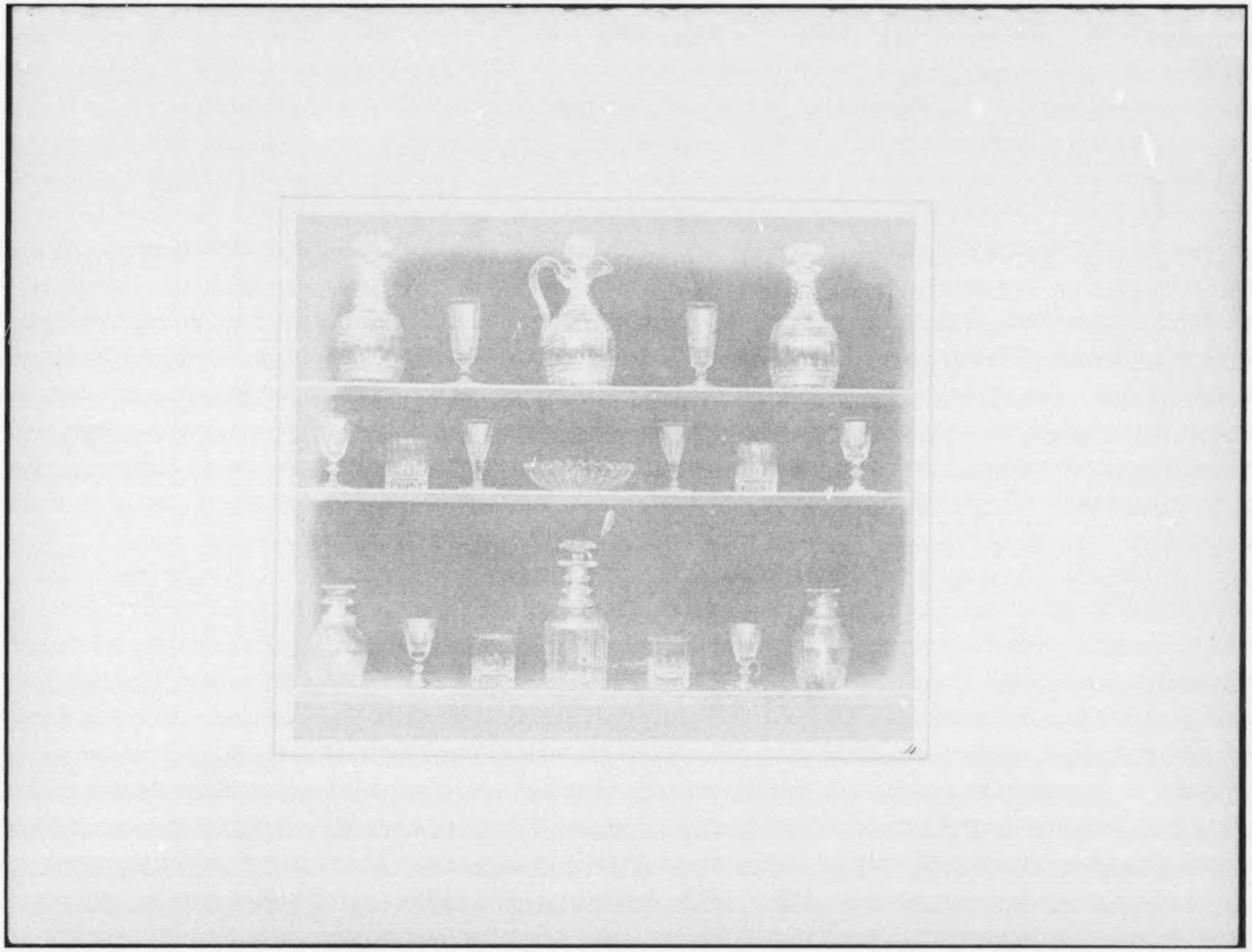


SALT PRINT

Dates of major use: 1840-1860s

Inventor: William Henry Fox Talbot (1839)

A salted paper photograph is a positive printed from a negative on a chloride and silver nitrate photosensitized paper support. To produce the image, a negative is placed in contact with the paper. Following exposure to light, an image appears and must then be fixed. By using ordinary paper, prints have a matte surface and warm image tones, from deep red to purple, which is achieved depending on the sizing of the paper. Characteristics are visible paper fibres and fading.



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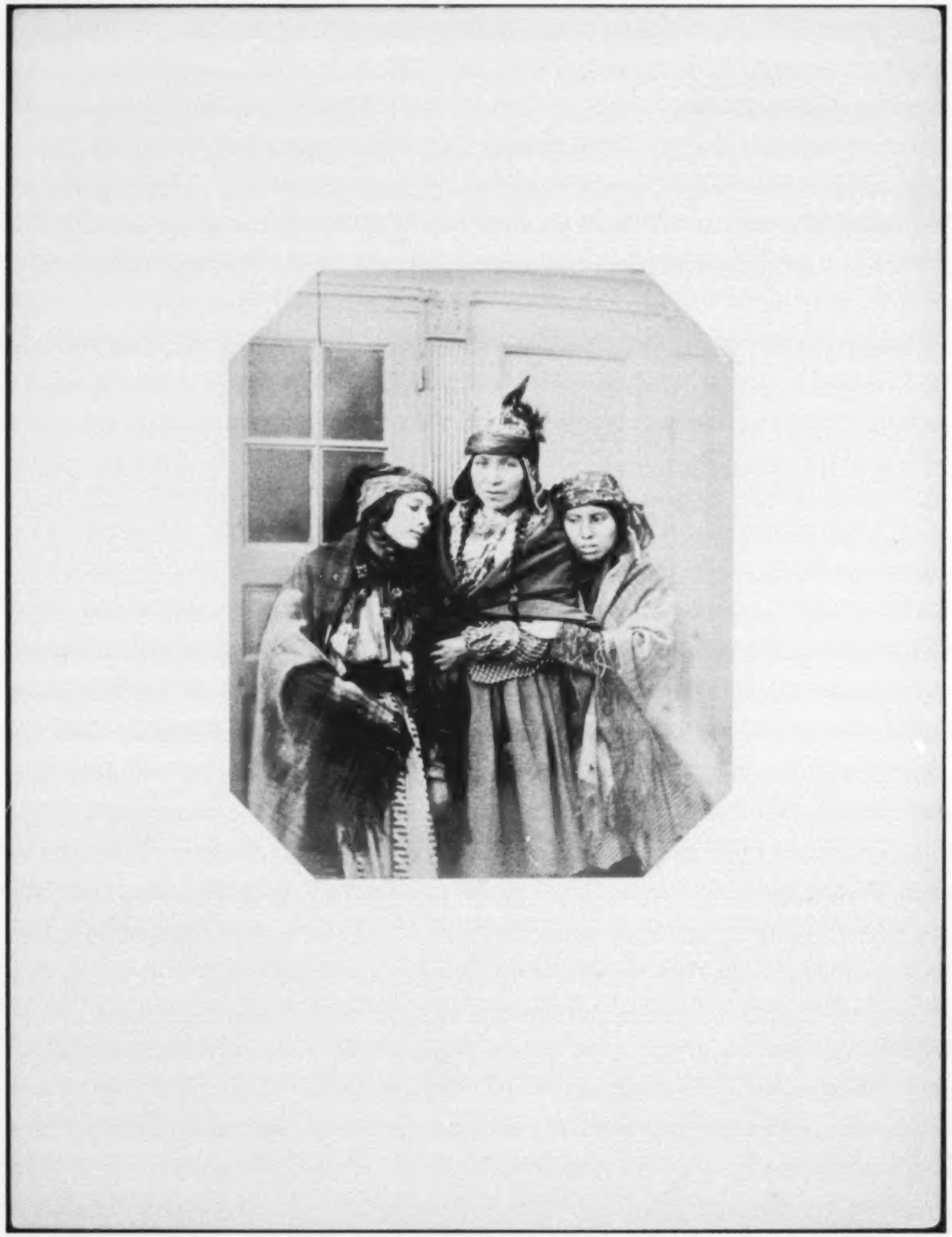
ALBUMEN

Dates of major use: 1850-1895

Inventor: Louis Désiré Blanquart-Évrard (1850)

An albumen is a positive photograph on a paper support. The silver particles are suspended within the albumen layer, which is made of egg whites and sensitized with silver nitrate. The sensitized paper is placed in contact with a negative and exposed to light, which results in a contact print by printing-out. The final processing steps are fixing and washing. Gold toning was introduced at a later date. The image tones range in colour from brown to purple to bluish black, depending on the processing. Characteristics include some visible paper fibres as well as overall small cracks and fading into an overall yellow discolouration.



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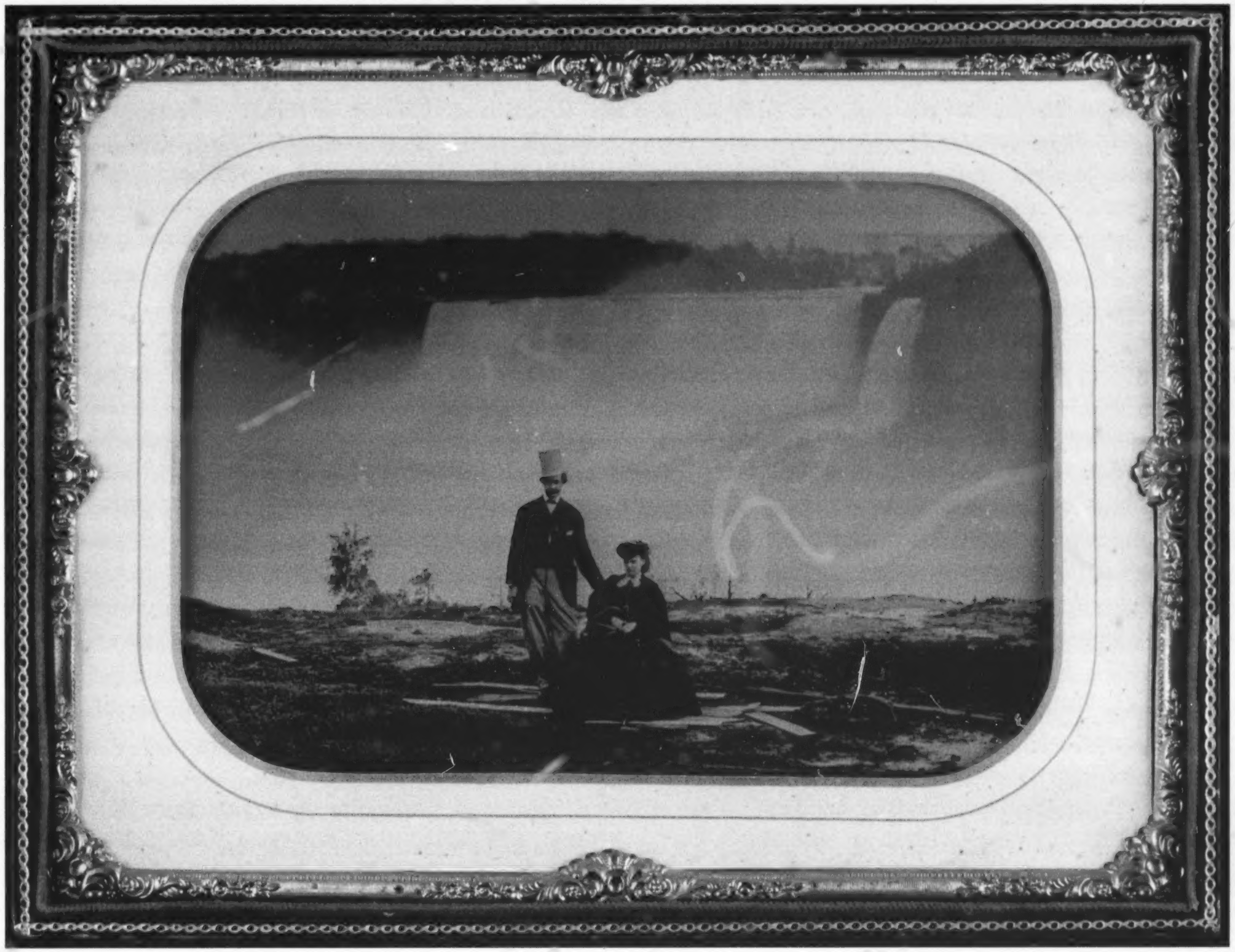
AMBROTYPE



Dates of major use: 1855-1865

Inventor: Scott Archer (1852), J. Ambrose Cutting (1854)

An ambrotype is a collodion emulsion on a glass support. This negative on glass is underexposed and treated with a chemical solution that results in a silver image with a whitish tone rather than a brown tone.

To make the ambrotype a positive, a dark material such as paper, velvet or applied lacquer is placed against the back. These images are also housed in cases similar to those used for daguerreotypes and tintypes.

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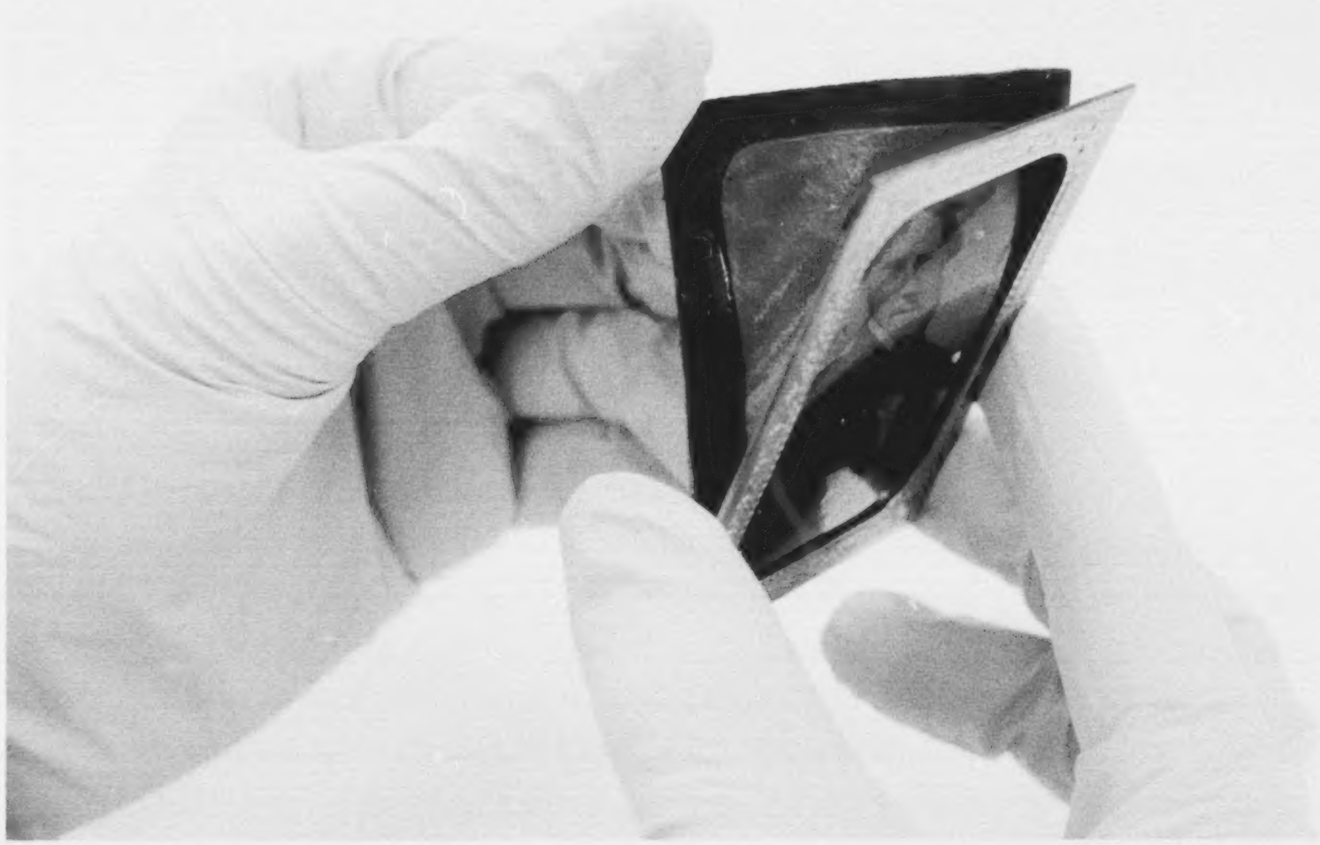
PANNOTYPE

Dates of major use: 1853-1880

Inventor: Wülff and Company

A pannotype is made by transferring a direct positive collodion emulsion from glass onto fabric. This fabric support can be a waxed textile, a piece of patent leather or a black oilcloth. The term "pannus" stems from Latin meaning "cloth." It gained popularity because of the support's ability to withstand breaking. Particularly, they would not be damaged in the mail like photographic supports such as metal (daguerreotypes) or glass (ambrotypes). This practicality led to the placement of pannotypes in albums and lockets.



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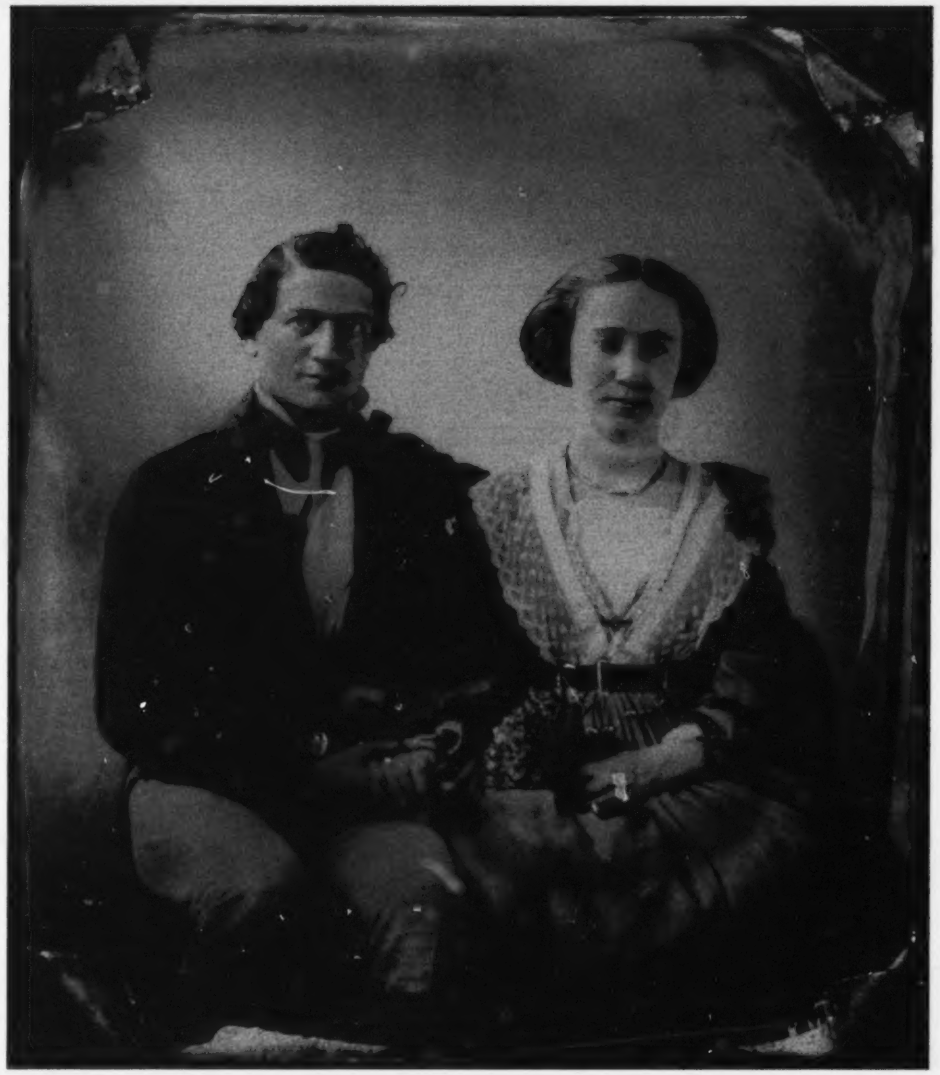
TINTYPE

Dates of major use: 1855-1860s

Inventor: Adolphe-Alexandre Martin (1853), Hamilton A. Smith (1856)

A tintype is a monochromatic direct positive image that is formed on a thin metal plate covered with a black varnish. They were often hand-coloured. Tintypes can be presented in paper mounts to be slid into albums or protected in American cases under glass.



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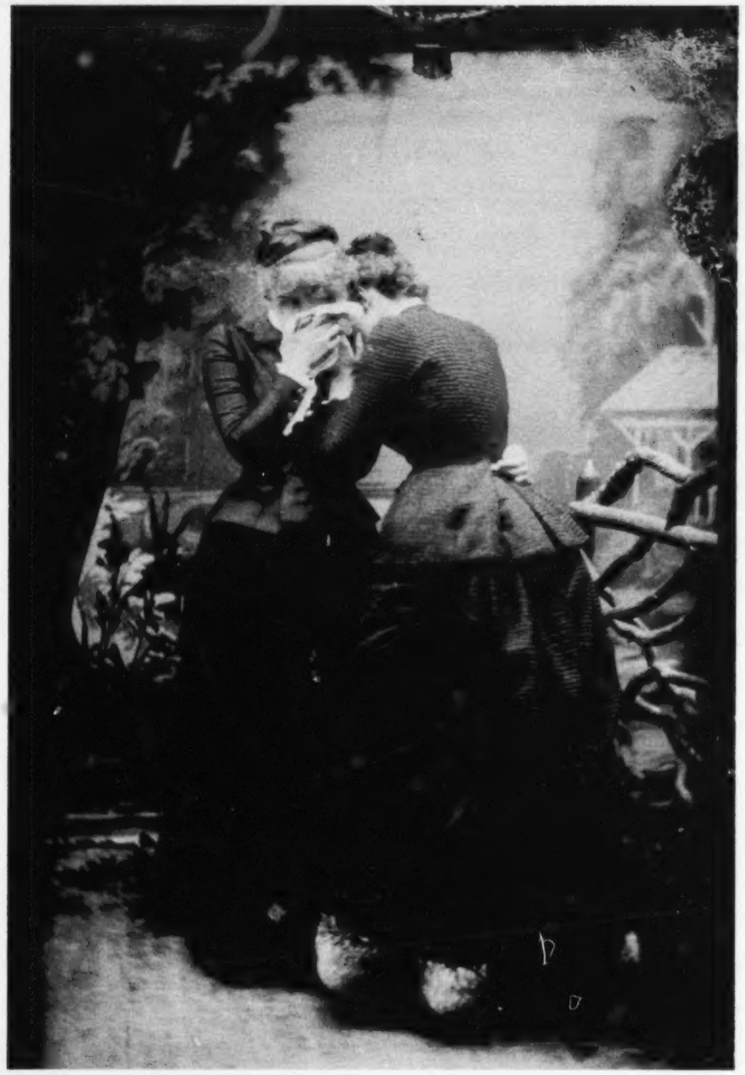

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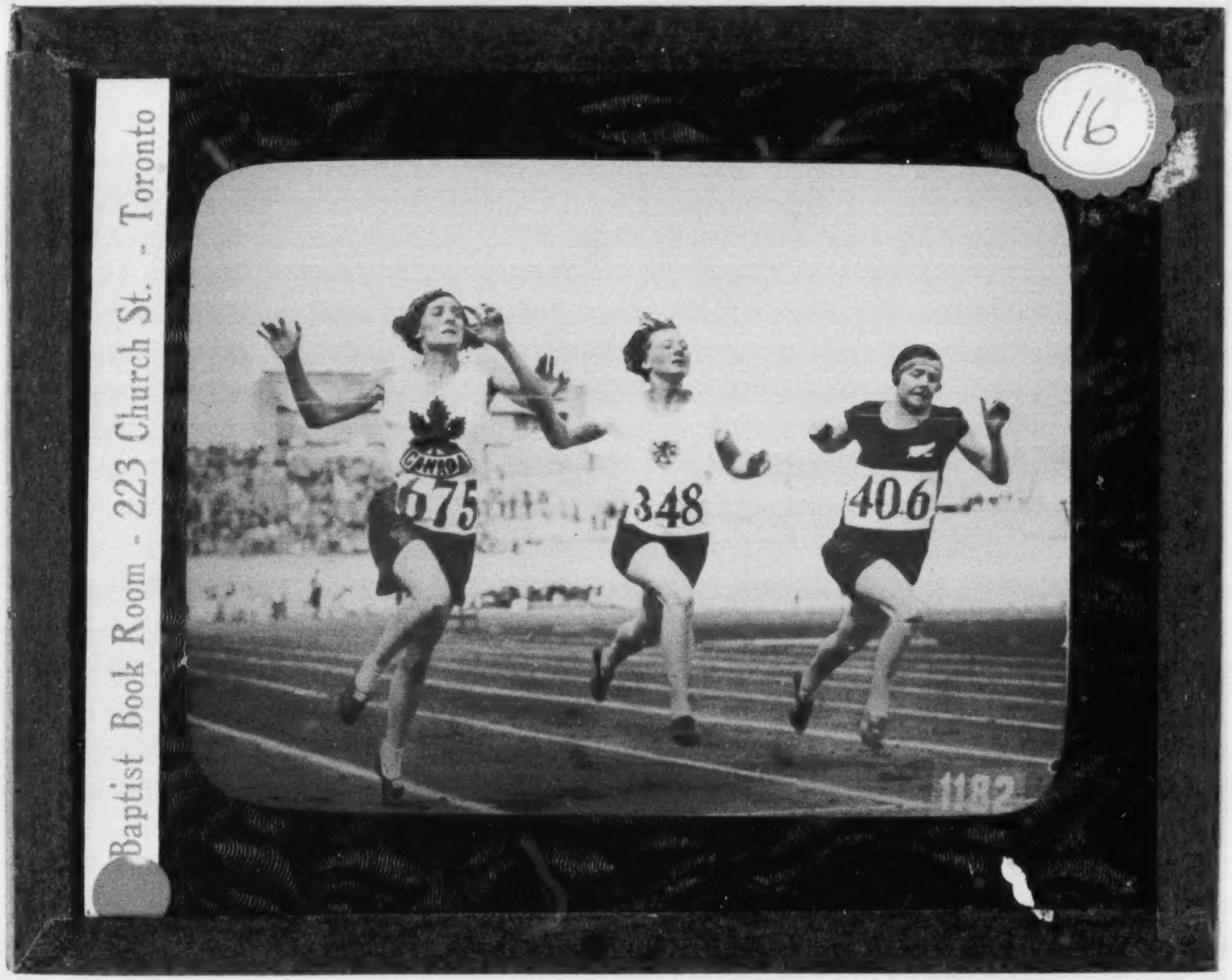
LANTERN SLIDE


Baptist Book Room - 223 Church St. - Toronto
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Dates of major use: 1850-1950

Inventor: Christian Huygens (1629-1695), Langenheim Bros (1850)

A lantern slide is a transparency of a positive photograph on glass. It is viewed either by projection or by transmitted light. These images can be made using albumen, collodion or gelatin. To view lantern slides, a magic lantern was used.

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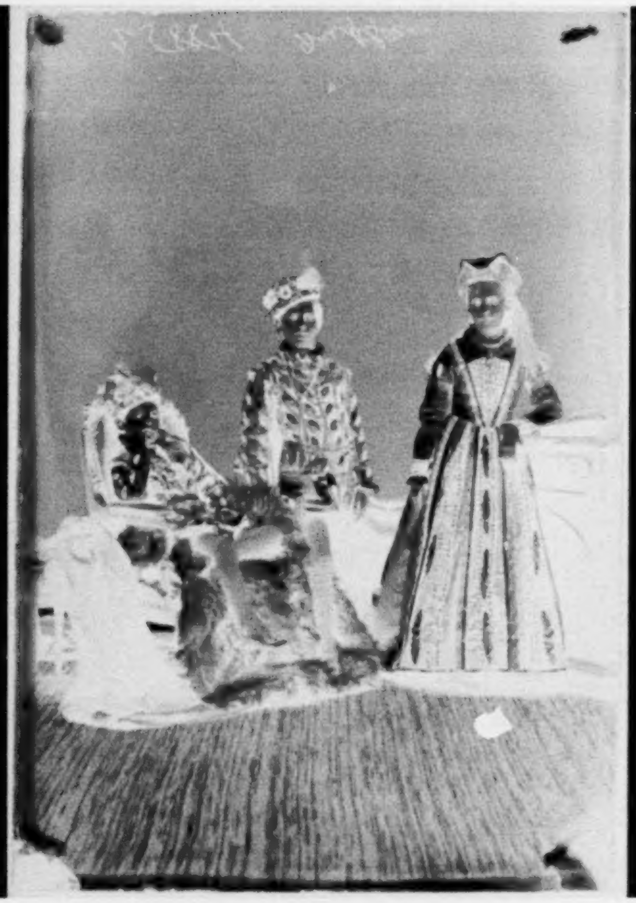
COLLODION NEGATIVE

Dates of major use: 1851-1890

Inventor: Frederick Scott Archer (1851)

A collodion negative is a negative made on glass. It is coated with cellulose nitrate, which makes it sensitive to light. The emulsion may be uneven or absent along the edges. This may result in a non-image area. It may also be missing varnish along the corners if it was coated unevenly, which could lead to areas of silver mirroring. The glass itself could also be hand cut, and thus have uneven edges. Overall, the tones are warm, ranging from creamy white to light and dark beige.



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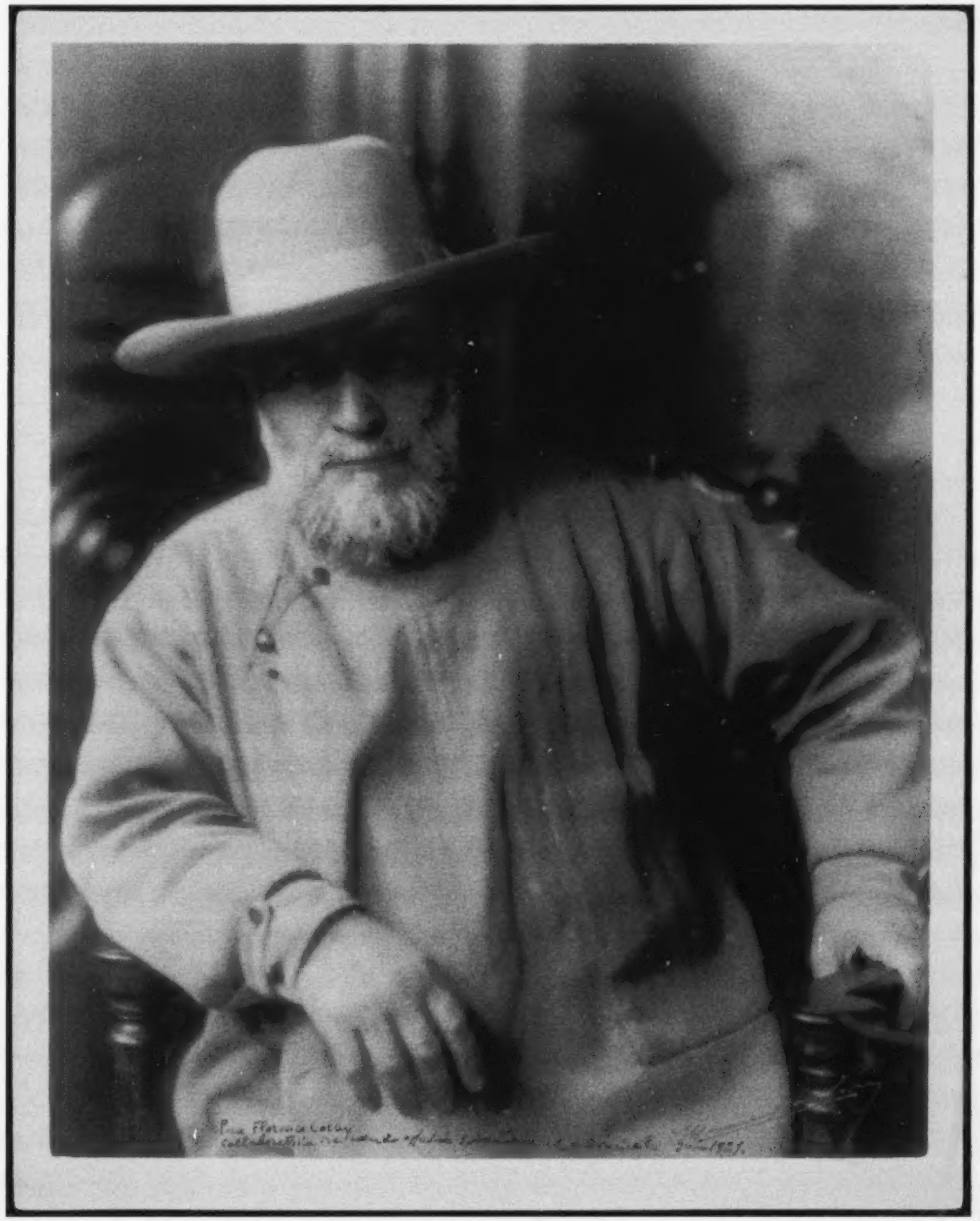
CARBON PRINT

Dates of major use: 1870s-1900s

Inventor: Louis-Alphonse Poitevin (1855)

Carbon printing, called the “unalterable powder process” at the time, is a non-silver photographic process invented by Louis-Alphonse Poitevin in 1855. Its principle is based on the action of potassium bichromate, which hardens gelatin after exposure to light. A sheet of paper is coated with a mix of bichromated gelatin and pigment. It is then exposed to light in contact with a negative. The image is obtained in warm water. Areas exposed to light are hardened and become insoluble, while, in areas that have not been exposed, the gelatin and the pigments dissolve in the water. The invention of the “carbon transfer” in 1860 helped improve the rendering of mid-tones. The image layer is removed from its original support before being transferred to a second support. To tackle the problem of the image being reversed during a single transfer, photographers then developed the double transfer technique, which allowed them to reproduce the true orientation of the image.



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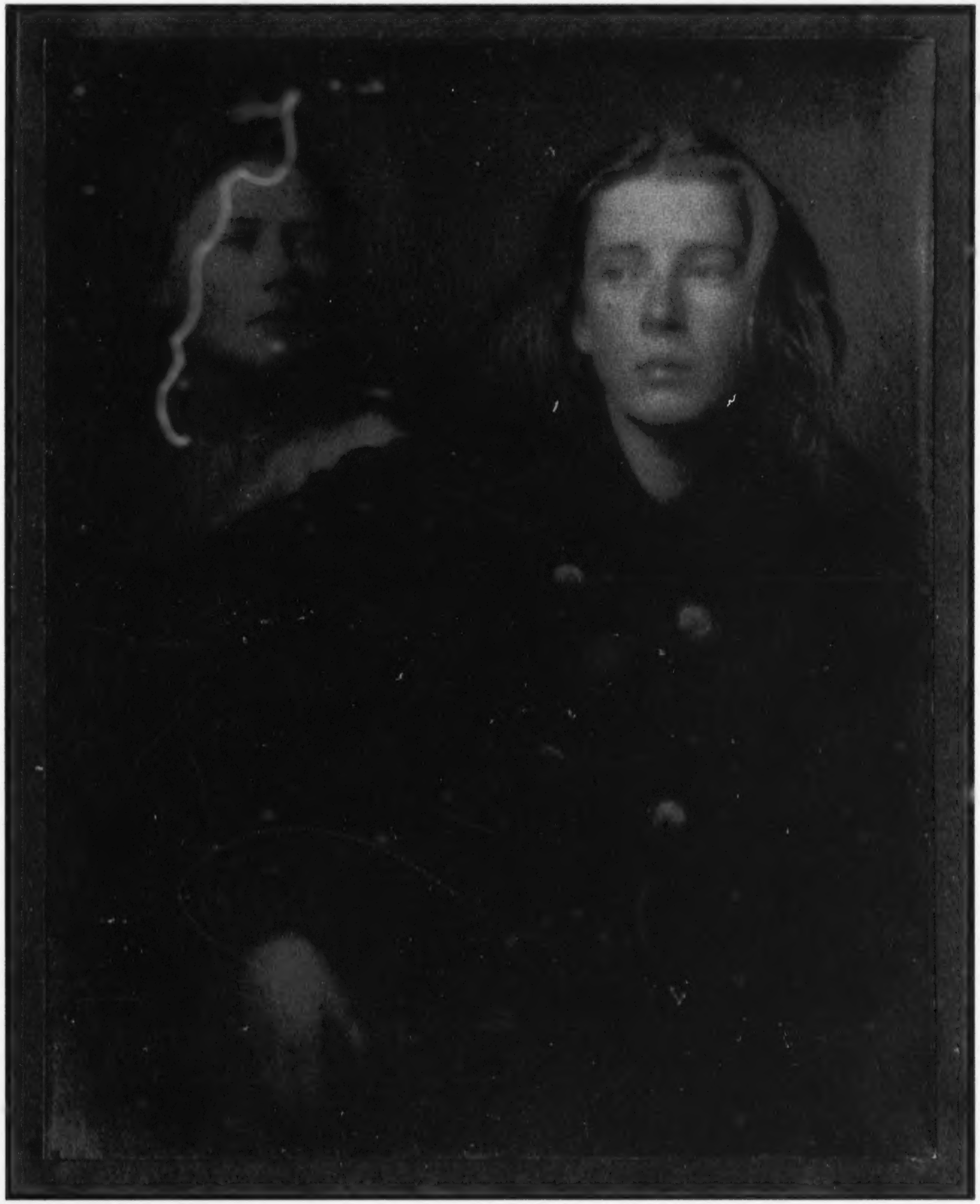
PLATINUM/PALLADIUM

Dates of major use: 1880 -1930s

Inventor: William Willis (1873)

A platinum (or palladium) print is a photograph on an uncoated paper support. The paper is sensitized with salts of platinum and/or palladium and light-sensitive iron salts. The papers are exposed in contact with the negative, the sensitized paper is then developed in potassium oxalate (or sodium citrate) and immersed in a series of clearing baths, and finally washed in water. Characteristically, these images have a wide range of mid-tone density values ranging from cool grey-black to sepia.



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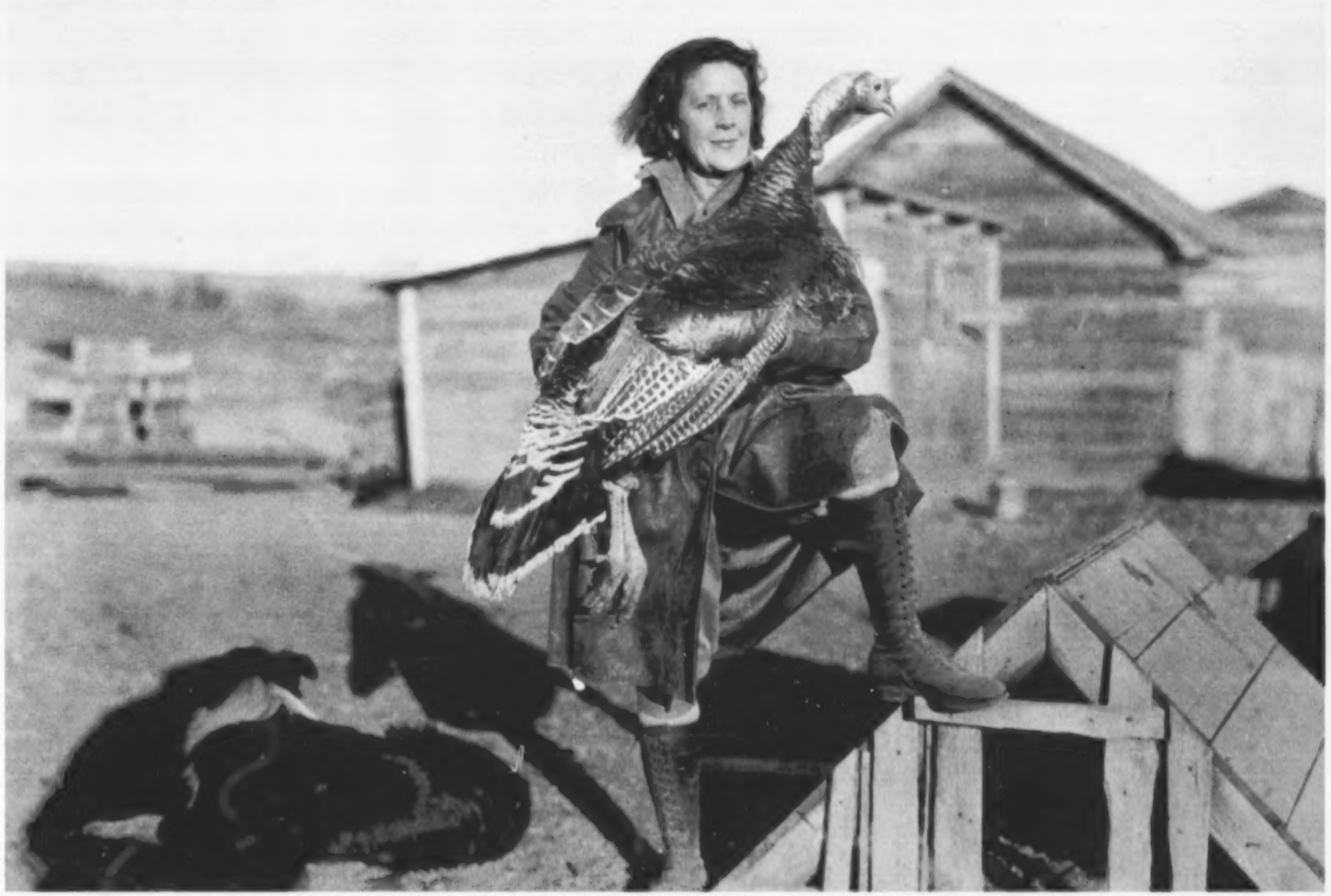
SILVER GELATIN DEVELOPING-OUT PRINT (FIBRE-BASED)



Dates of major use: 1880-present

Inventors: Photographic industries

Fibre-based gelatin silver prints are composed of four layers: paper base, baryta, gelatin binder, and an overcoat of a protective gelatin. This paper is placed into a developing solution, hence developing-out print (DOP). Exposed to light, the paper produces a latent image. Then it is placed into a developer bath, where the image becomes visible. Finally, the fibre-based gelatin silver prints are toned in gold, platinum, selenium and other sulfide toners for image stability.

Generally, they have black to gray tones that result in a neutral colouration. The highlights can be either bright white or warm cream in tone. The surface can range from high gloss to matte. And the texture can be smooth to highly textured depending on the paper stock.

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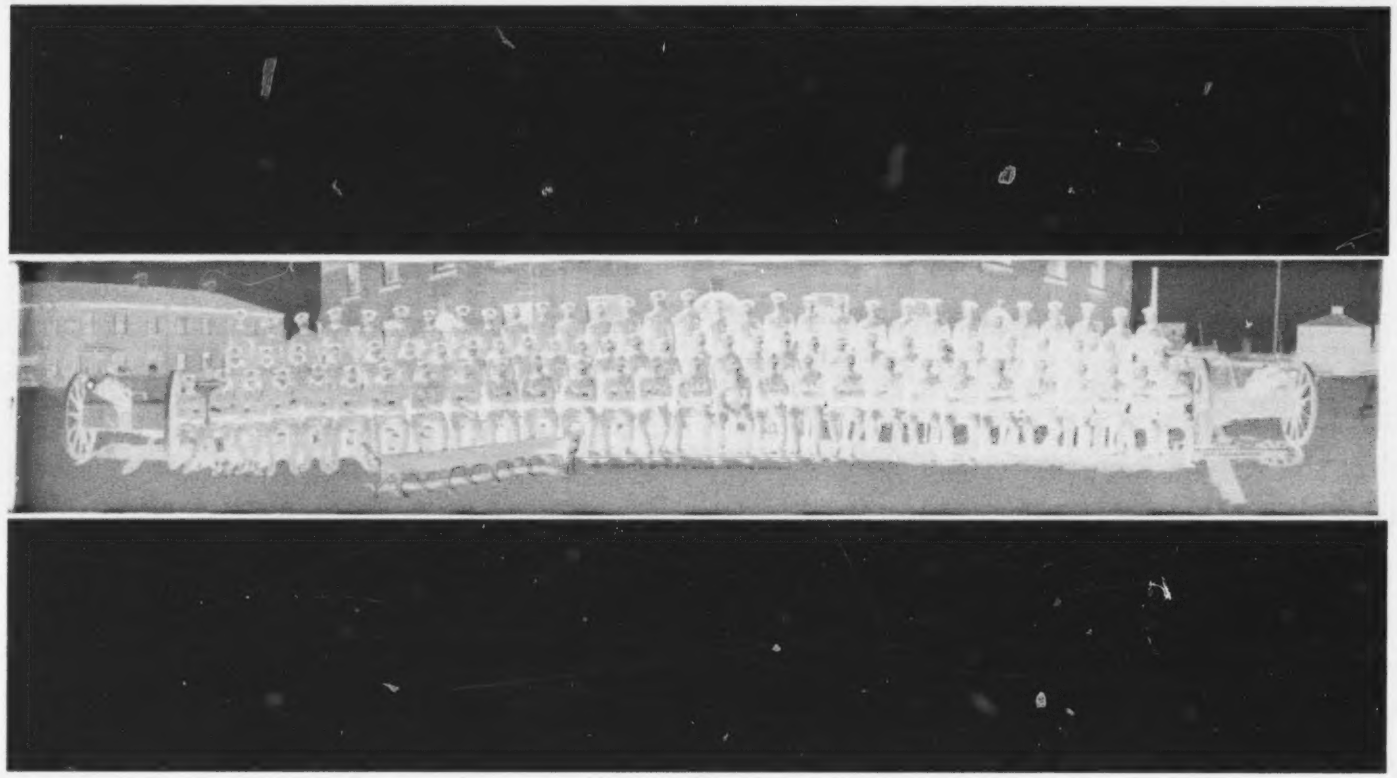
CELLULOSE NITRATE NEGATIVE



Dates of major use: 1888-1951

Inventor: Hannibal Goodwin (1887), George Eastman (1889)

Cellulose nitrate was the first transparent flexible plasticized base that was commercially available. A major drawback is that it decomposes over time and transforms into brittle shards. It is extremely flammable and therefore dangerous to store in a photographic collection.

There are three ways to identify nitrate film-based negatives: by inspecting edge printing and notch codes for dating information, by testing the materials (polarization, diphenylamine test, burn test, float test) and by looking for nitrate film deterioration.

This nitrate negative bears an inscription: No. 7 Draft, "C" Battery, R.C.H.A. It is dated between 1914-1918, which falls within the 1888-1951 date range for the use of nitrate film.

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Related Media

PDF - Visual Glossary of Six Stages of Nitrate Film Base Deterioration

AUTOCHROME PLATE

Dates of major use: 1907-1935

Inventor: Auguste and Louis Lumière (1903)

The autochrome plate patented in 1904 by the Lumière brothers was designed to be viewed using handheld devices or displayed using carbon arc lamps. It was made with miniscule grains of potato starch dyed red-orange, green and blue-violet on a glass plate. Lampblack was added to fill in the gaps between the grains. It was then laminated and pressed. A black-and-white gelatin emulsion was added as the light-sensitive layer. The small particles of colour can be noticed while viewing.

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CELLULOSE ACETATE NEGATIVE

Dates of major use: 1925-1950

Inventor: Film manufacturers

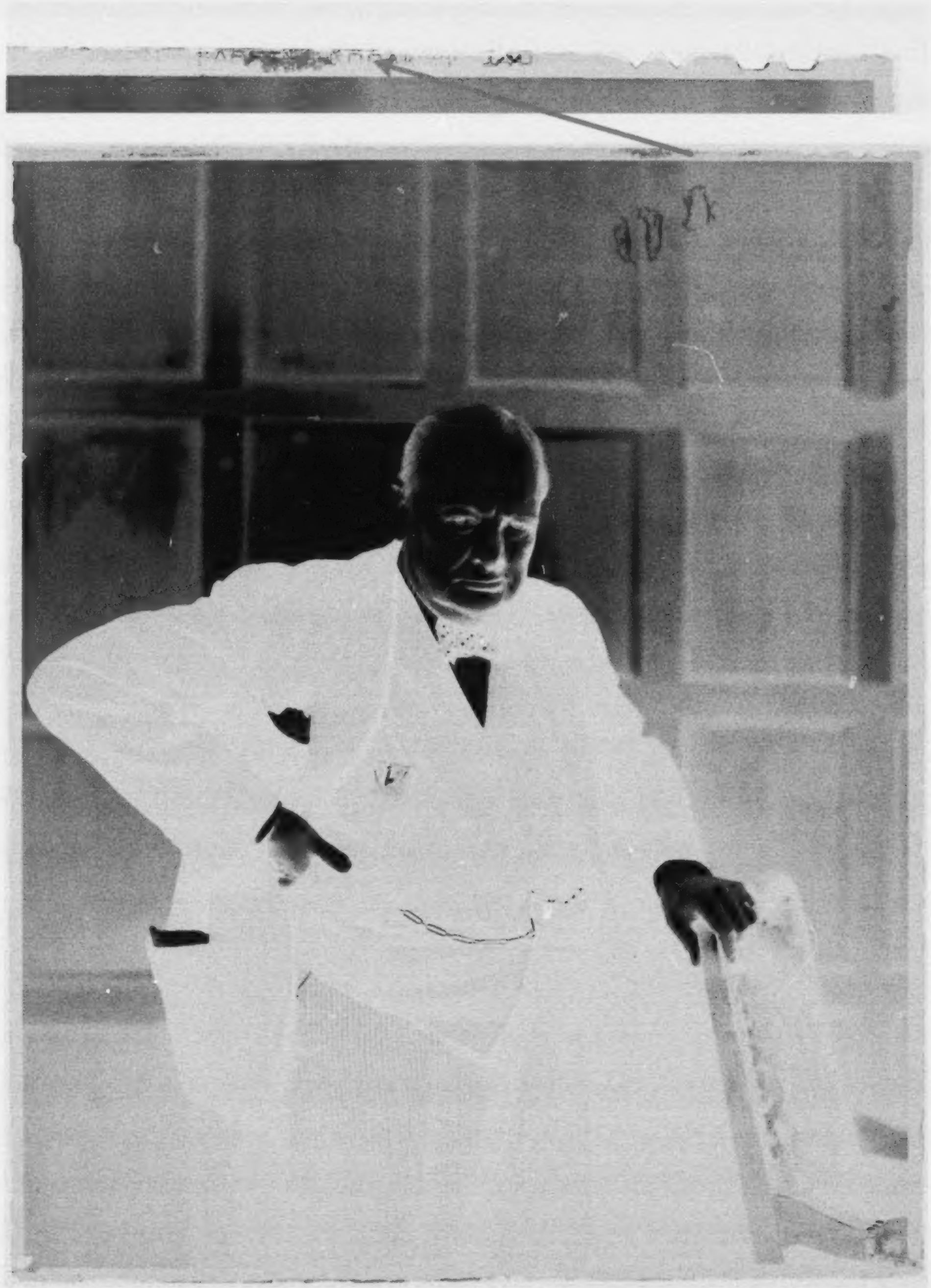
Cellulose acetate film was used as a safe replacement for the unstable and highly flammable cellulose nitrate film.

There are three methods to identify negatives: by inspecting edge printing and notch codes for dating information, by looking for acetate film-based deterioration and by testing the materials.

The edge printing on this negative is obvious, as the word “safety KODAK” is labeled on the emulsion side of the upper right edge of the negative border. There are also two V- and two U-shaped notch codes, which correspond to Kodak 14B safety negative sheet film.

As for dating the material, cellulose diacetate sheet film was used from 1925-1950 and cellulose acetate propionate was in production from 1930-1945. We also know the provenance of this negative of Sir Winston Churchill, which was taken by Yousuf Karsh on December 1941.

Therefore, we can accurately say that this negative is made with cellulose acetate.



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PDF - Visual Glossary of Six Stages of Acetate Film Base Deterioration

COLOUR TRANSPARENCY ON PLASTIC FILM

Dates of major use: 1935-present

Inventors: Lumière Brothers (1930s); Rudolph Fisher (1909); and from Eastman Kodak, Leopold Mannes and Leopold Godowsky (1935)

A colour transparency is a positive on a plastic film support. This chromogenic process uses either a cellulose acetate or polyester as a support. It incorporates three layers of gelatin (cyan, magenta or yellow) in each layer as well as a silver halide (chloride, bromide or iodide) to make it photosensitive.

They come in a standard formats such as 135 mm, 120 cm, 220 cm format rolled film and also sheet film. For long-term preservation, keep in cold storage.

Credit: Bob Brooks

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CHROMOGENIC PRINT

Dates of major use: 1960s-1990s

Inventor: Rudolph Fisher (1935)

The chromogenic print, introduced in the 1940s, is a silver-based photograph. The colours are formed by chemical synthesis during development. Traditionally a chromogenic print was produced using film in an enlarger. The enlarger projects light through the negative onto the photographic paper. With the advent of digital photography, a chromogenic print could be produced from a digital file using lasers or LED lights that project the image onto the photographic paper. The processes are similar as the photographic paper is processed using traditional chemicals.

Credit: Rodolphe Hammadi

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DYE DESTRUCTION PRINT

Dates of major use: 1963-present

Inventor: Bela Gaspar (1930), CIBA (1963)

Marketed starting in the early 1960s under the name Cilchrome®, then Cibachrome® and finally Ilfochrome®, dye destruction print is a silver process colour print obtained using a positive transparency. An image is formed from the selected bleaching of dyes (subtractive three-colour synthesis). The print support is composed of gelatin layers of yellow, magenta and cyan on laminated paper or pigmented plastic film. The dyes are destroyed according to the amount of light received when exposed during development. The technique gradually disappeared after the 2013 bankruptcy of Ilford.

Credit: Loretta Lux

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DYE DIFFUSION PRINT

Dates of major use:1948-2008

Inventor: Edwin H. Land (1937), Impossible Project 2008- currently

Dye diffusion prints were introduced in 1948 with the invention of the first Polaroid® device by Edwin H. Land. An integral film consisting of a receiving layer and a negative is loaded into the device. Immediately after the shot is taken, the film is manually removed or ejected from the device, a pod breaks open between two rollers releasing the reagent, which spreads between the negative and the receiving layer. The image is formed using a transfer/diffusion process. For black-and-white films, unexposed photosensitive salts are transferred from the negative to the positive. For colour Polaroid® films, introduced in 1963, dyes are transferred from one layer to another. A final chemical reaction fixes the image.

Credit: Anne Cartier-Bresson

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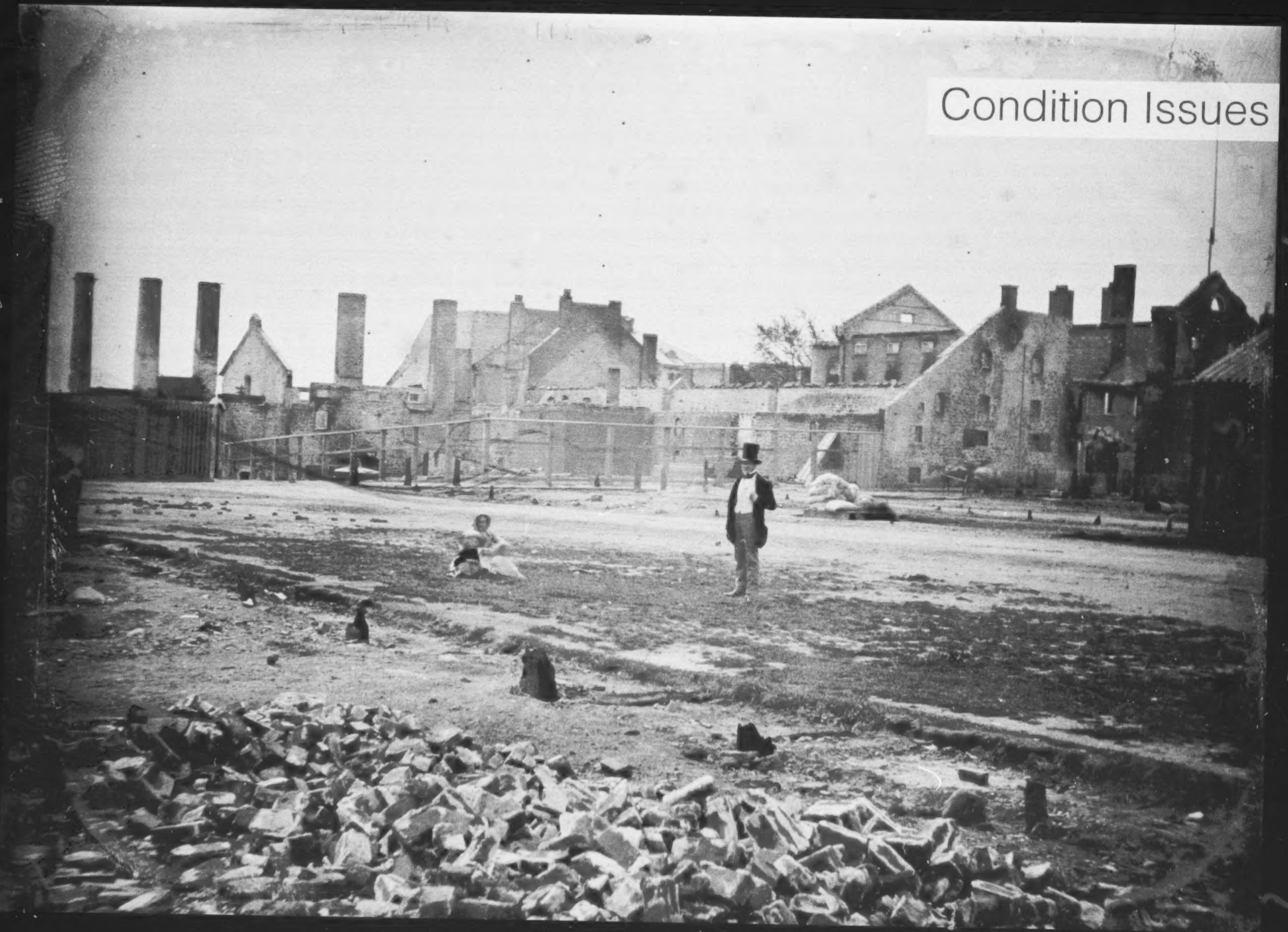
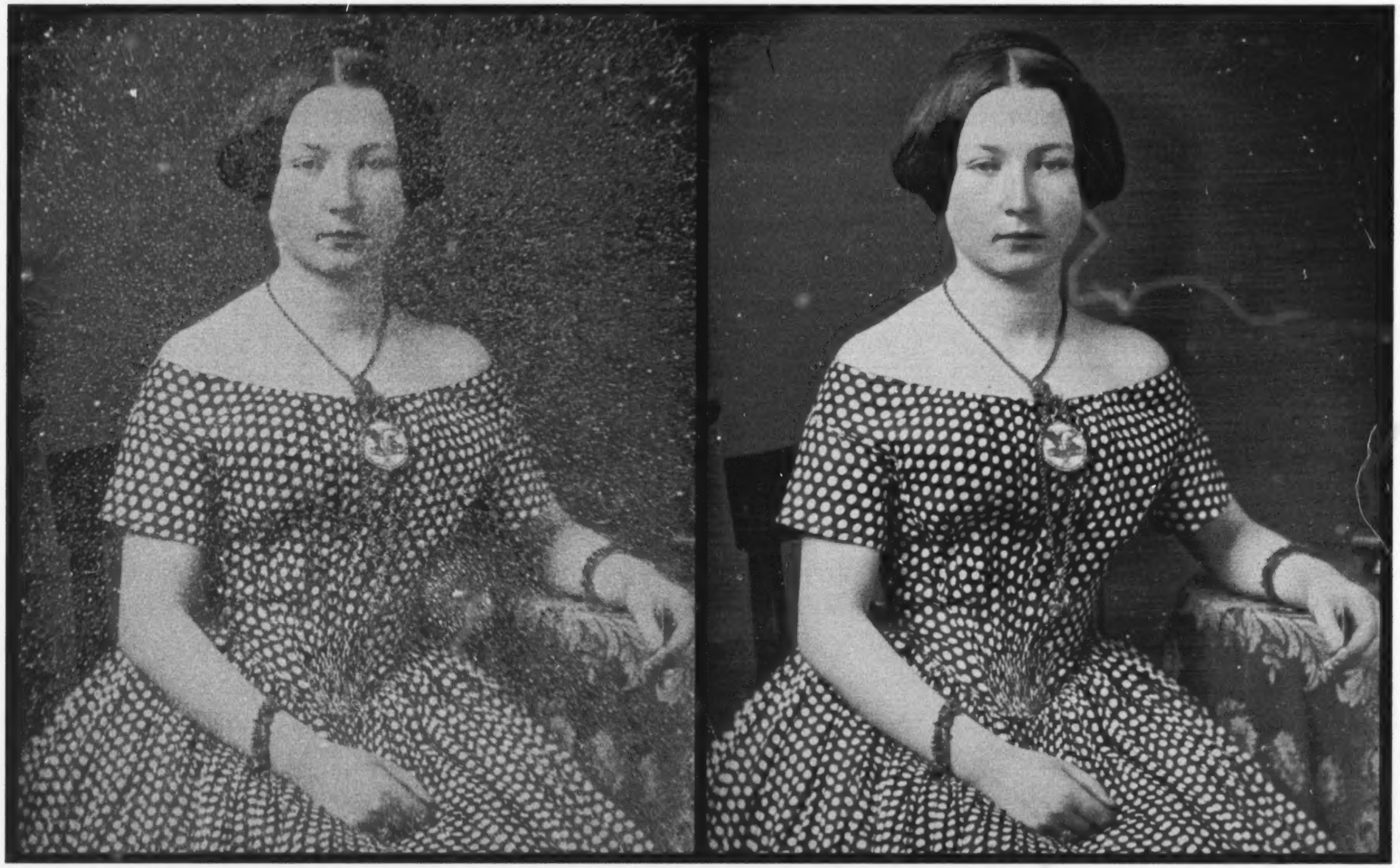
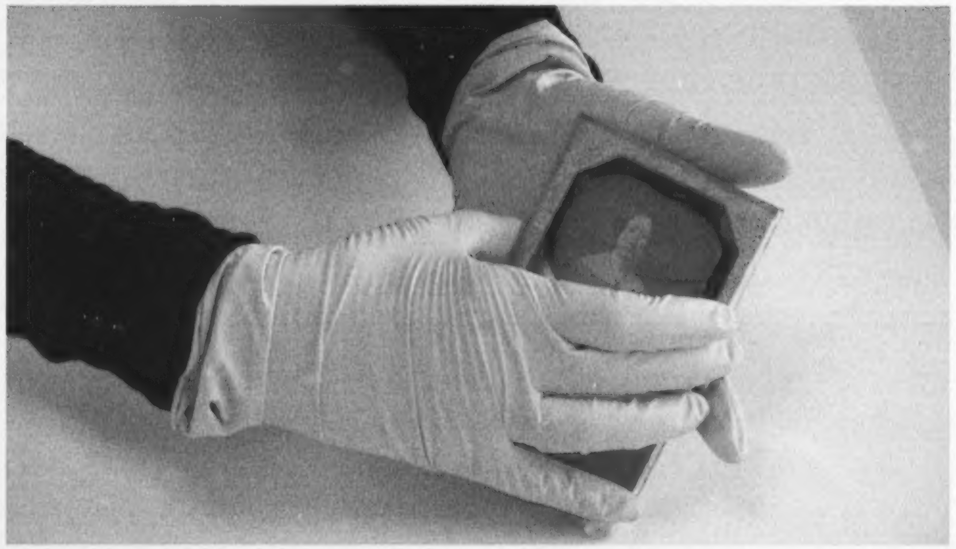


Condition Issues

WEEPING GLASS



This condition is caused by an inherent fault in the chemical composition of the original glass formula. Exposure to high levels of relative humidity during storage or display causes salts to hydrate and leach out of the glass. Alkaline droplets then form on the surface and appear as if the glass is crying or weeping.



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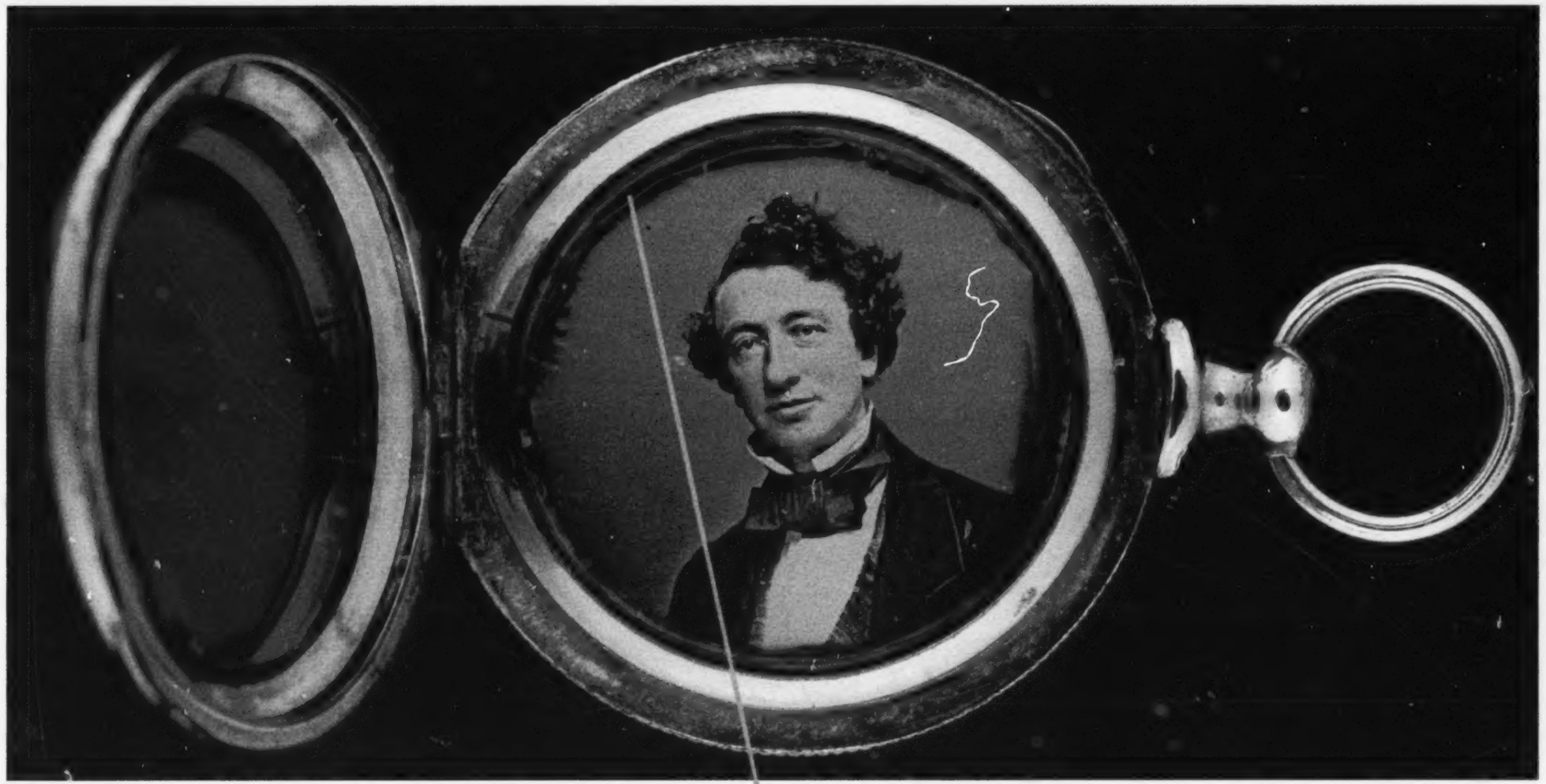
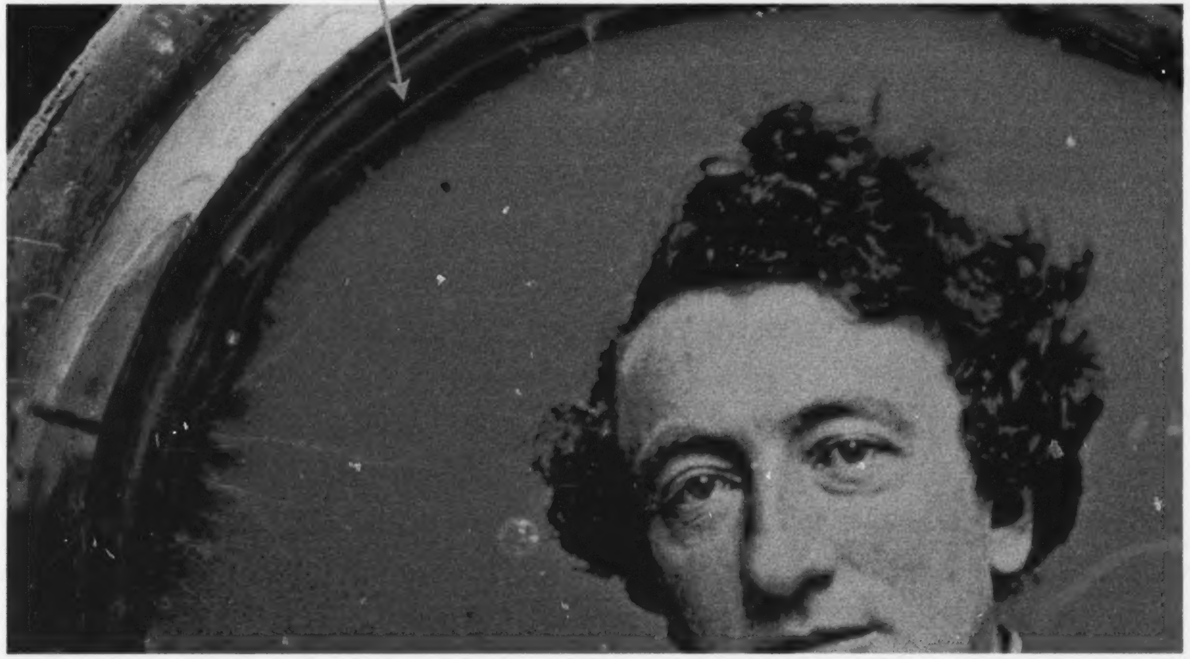
TARNISH

Photographs on metal supports are subject to corrosion and degradation caused by oxidation of the metal. The surface of a daguerreotype is susceptible to tarnish. Tarnish on daguerreotypes is composed of silver sulphide, silver oxide and silver chloride. Tarnish may appear at the edge of the brass window mat opening or over the entire plate. It can be characterized by a series of interference colours and/or pale grey, blue, green, brown or black.





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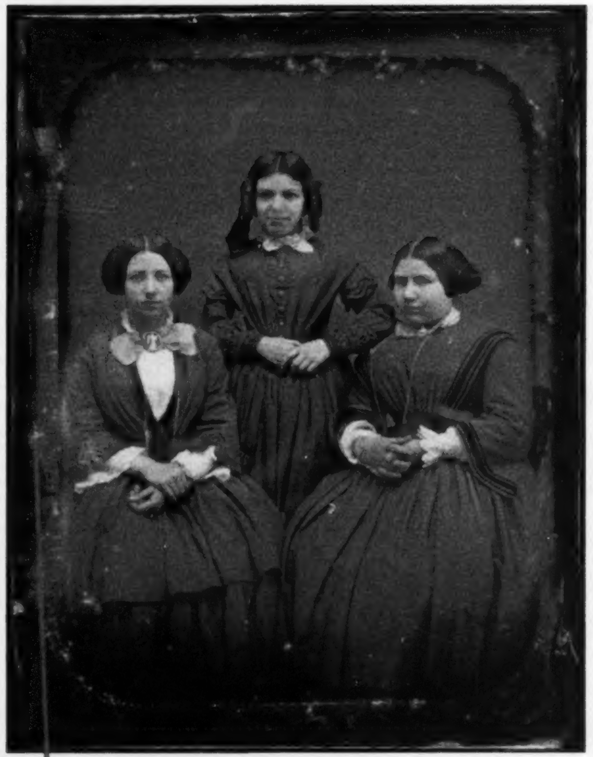
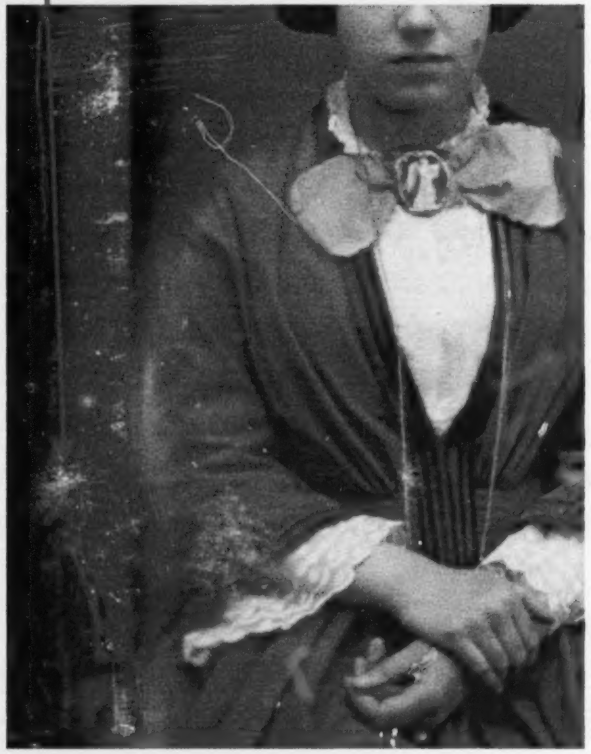
MOULD

Minute organisms known as mould spiders grow and feed on organic matter in high relative humidity, high temperature and stagnant air. Mould can be identified by white or beige tendrils with a well-defined elevated centre growing on the surface of photographic material.





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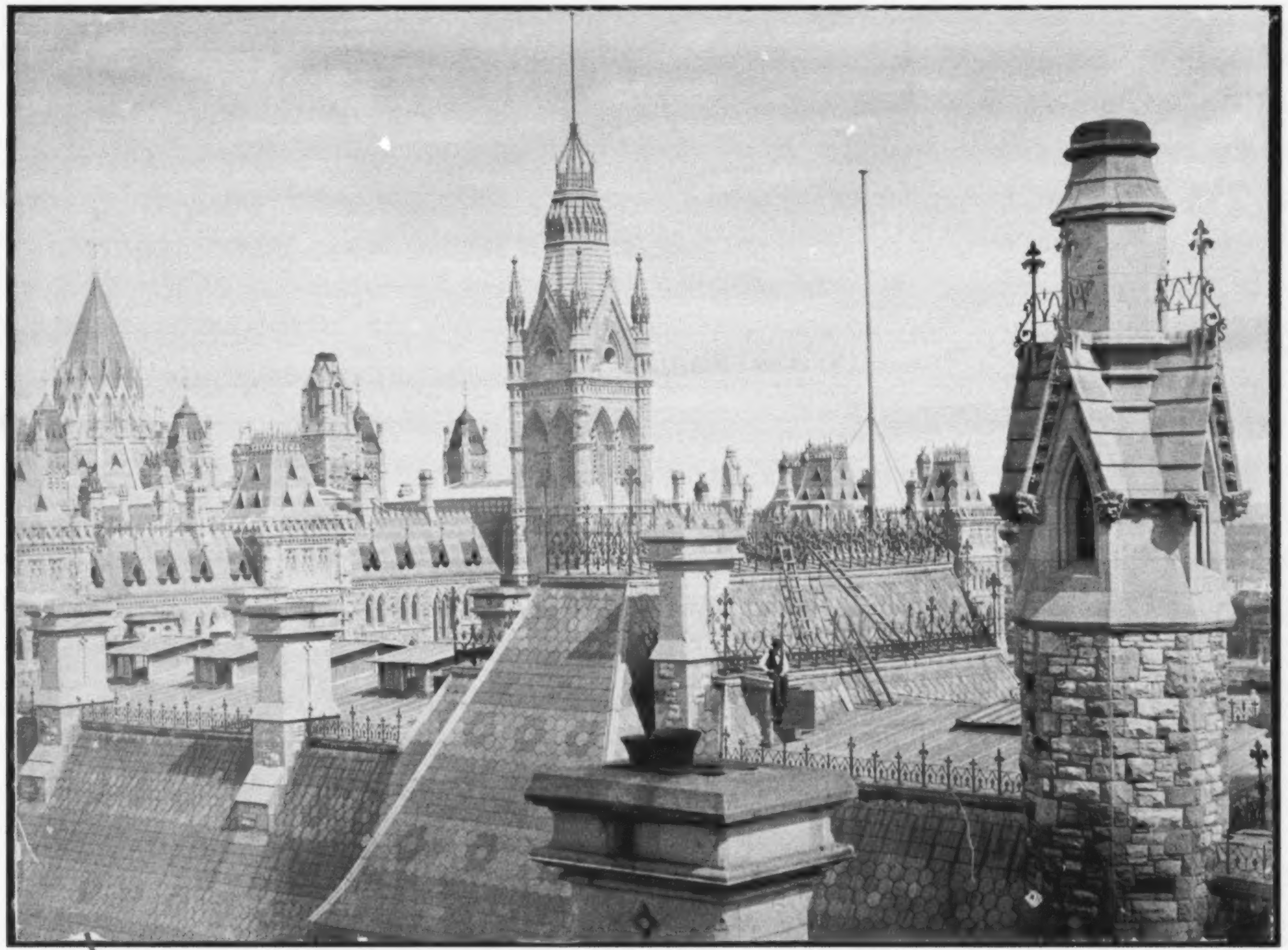
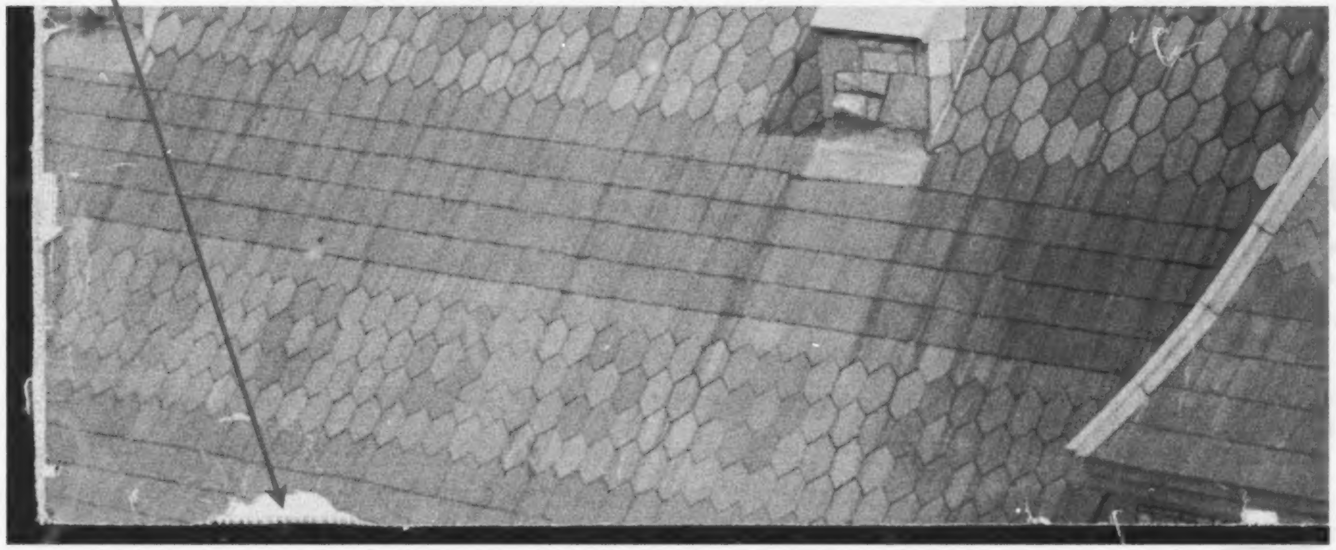
LOSS

VARIANTS

A missing fragment of the support or emulsion layer on a photograph.





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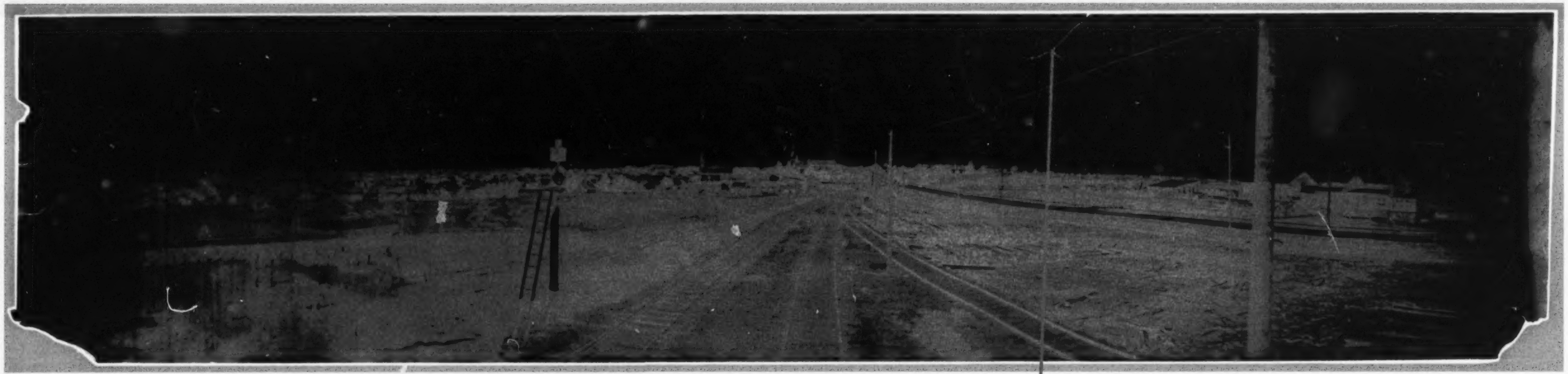
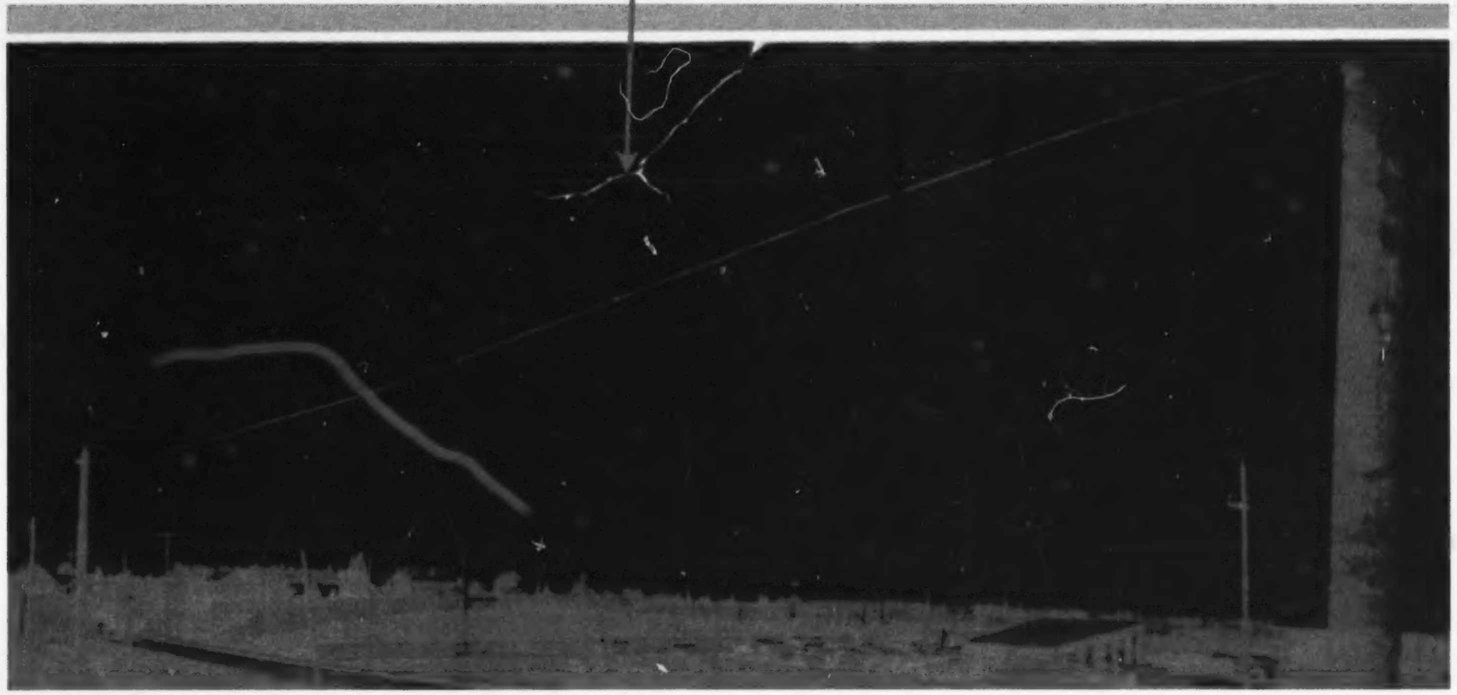


TEAR

A split in a photograph support or emulsion caused by it having been pulled apart forcefully.



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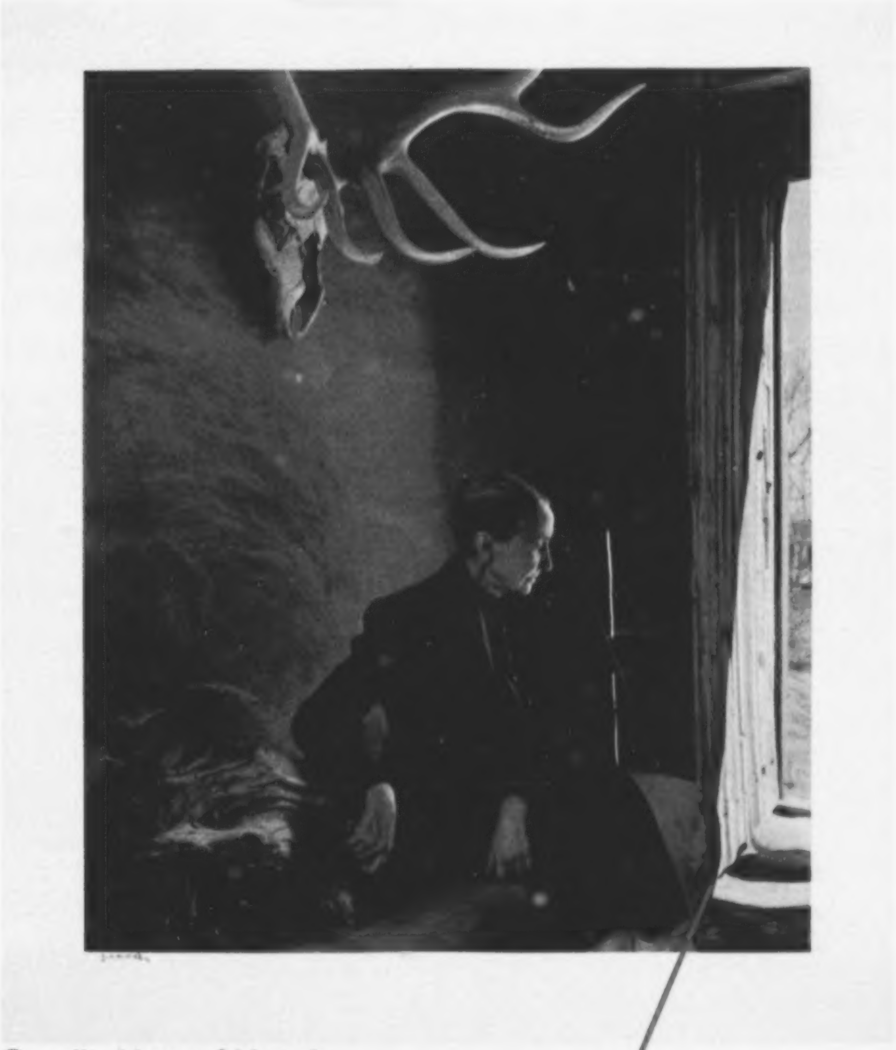
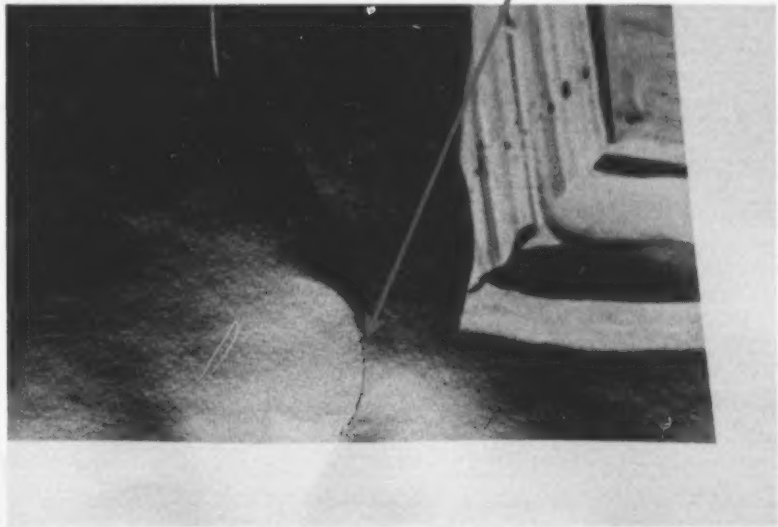
CREASE

A line, groove or ridge made by folding or crushing where the surface of a photograph remains unbroken. It can be caused unintentionally when a substrate bends over itself.



Credit: Yousuf Karsh



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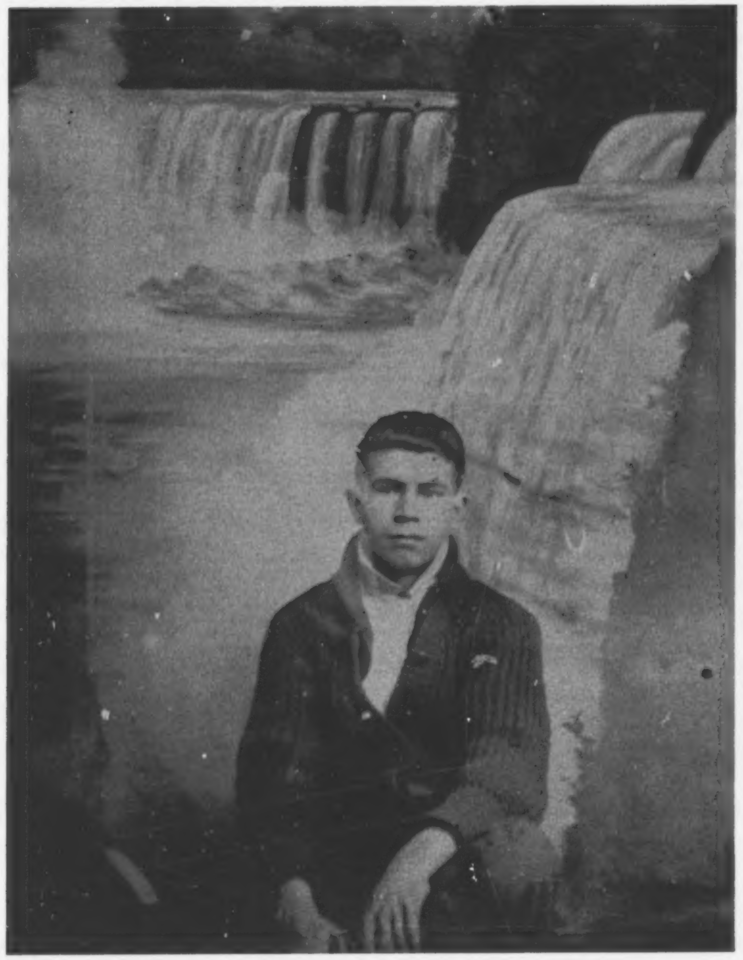
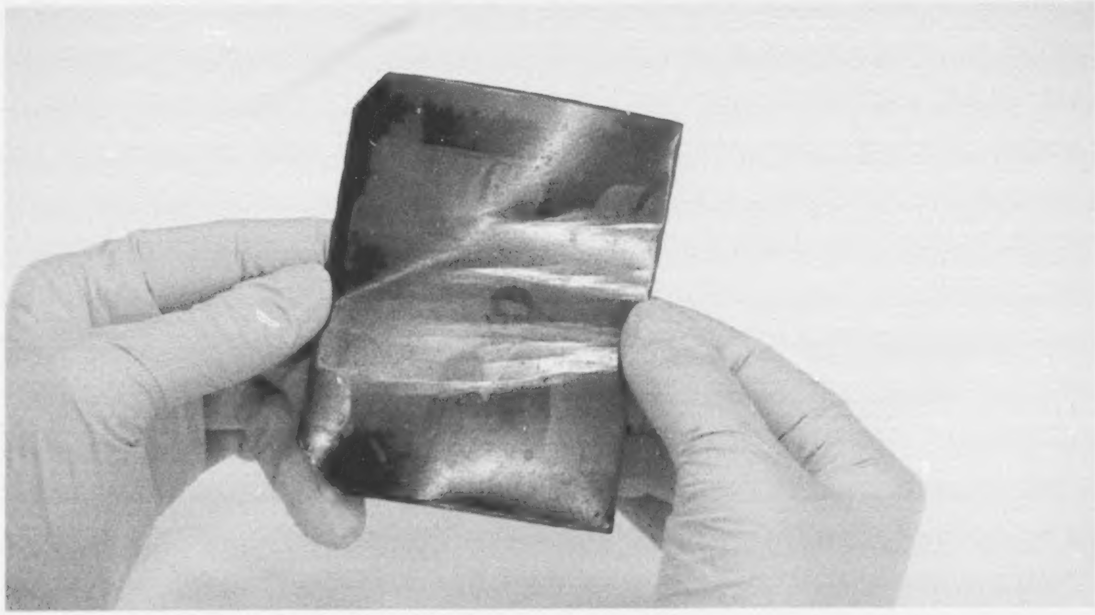
BEND

A bend in a material that may result in a crack or break in the emulsion / support, as one part of the emulsion or support is laid over itself.





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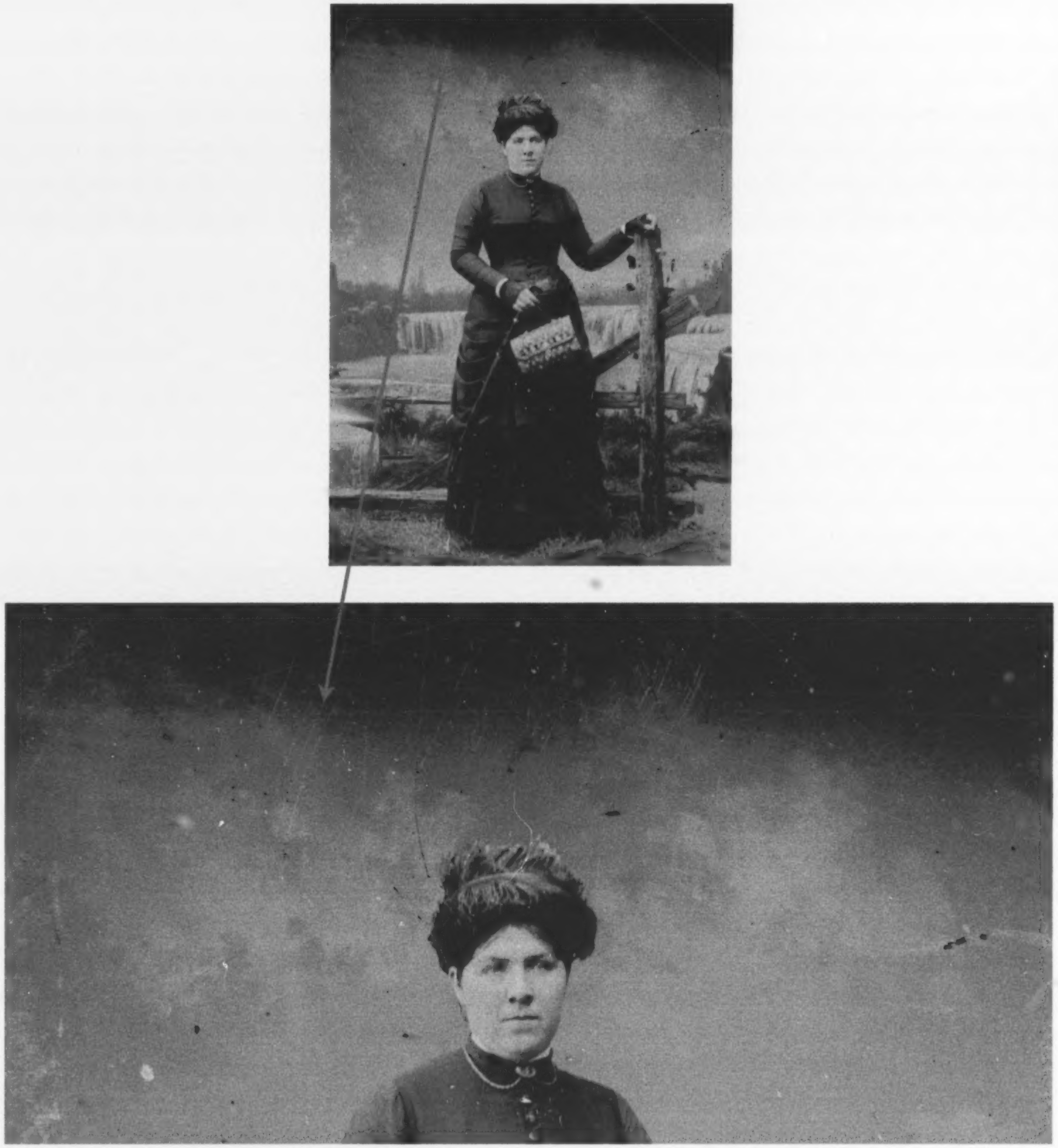
ABRASION

The physical process of scraping, roughening or wearing away an object's surface due to repeated friction or contact with other surfaces.



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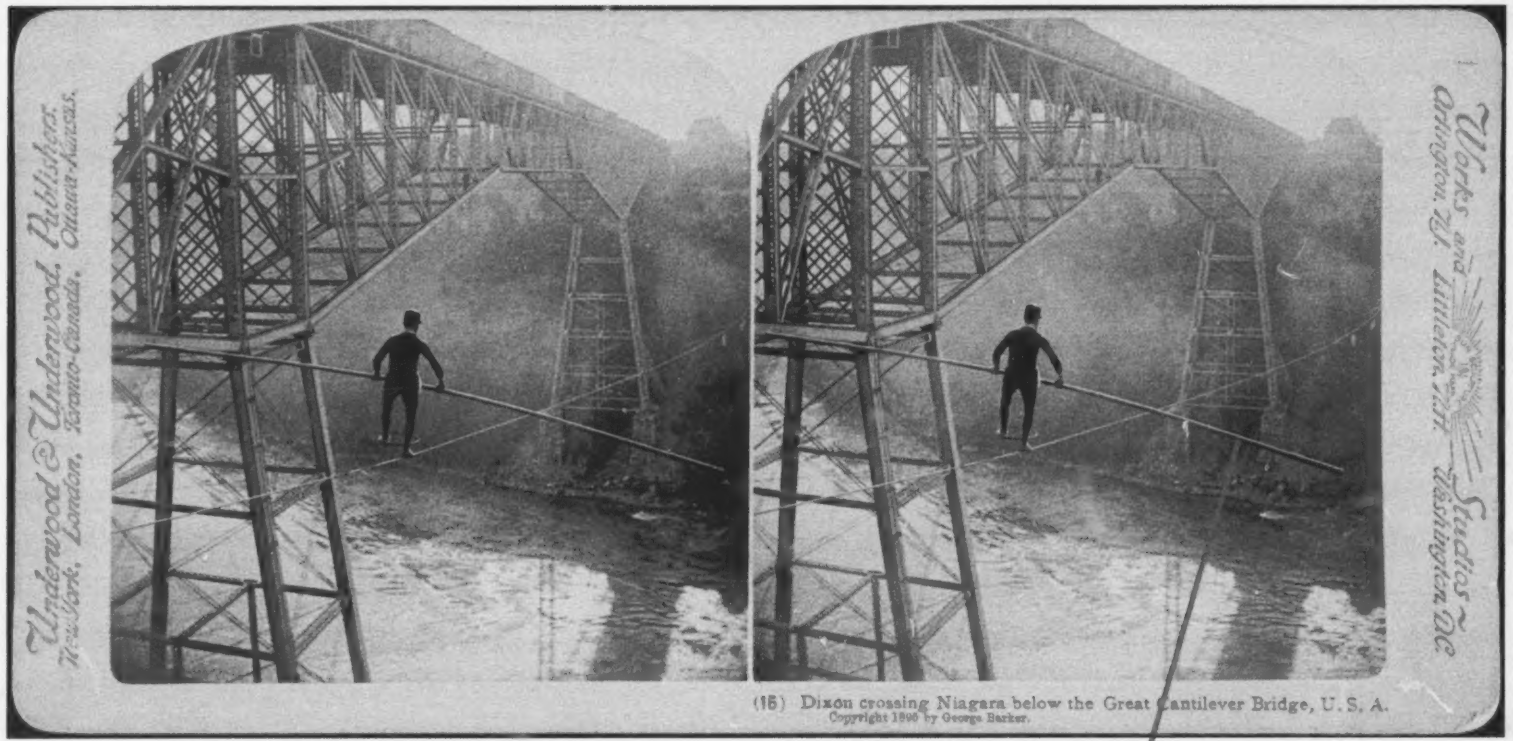
SCRATCH

Physical damage which causes an indentation. The term usually implies that there has been some loss to the support or emulsion layer of a photograph.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(15) Dixon crossing Niagara below the Great Cantilever Bridge, U. S. A.
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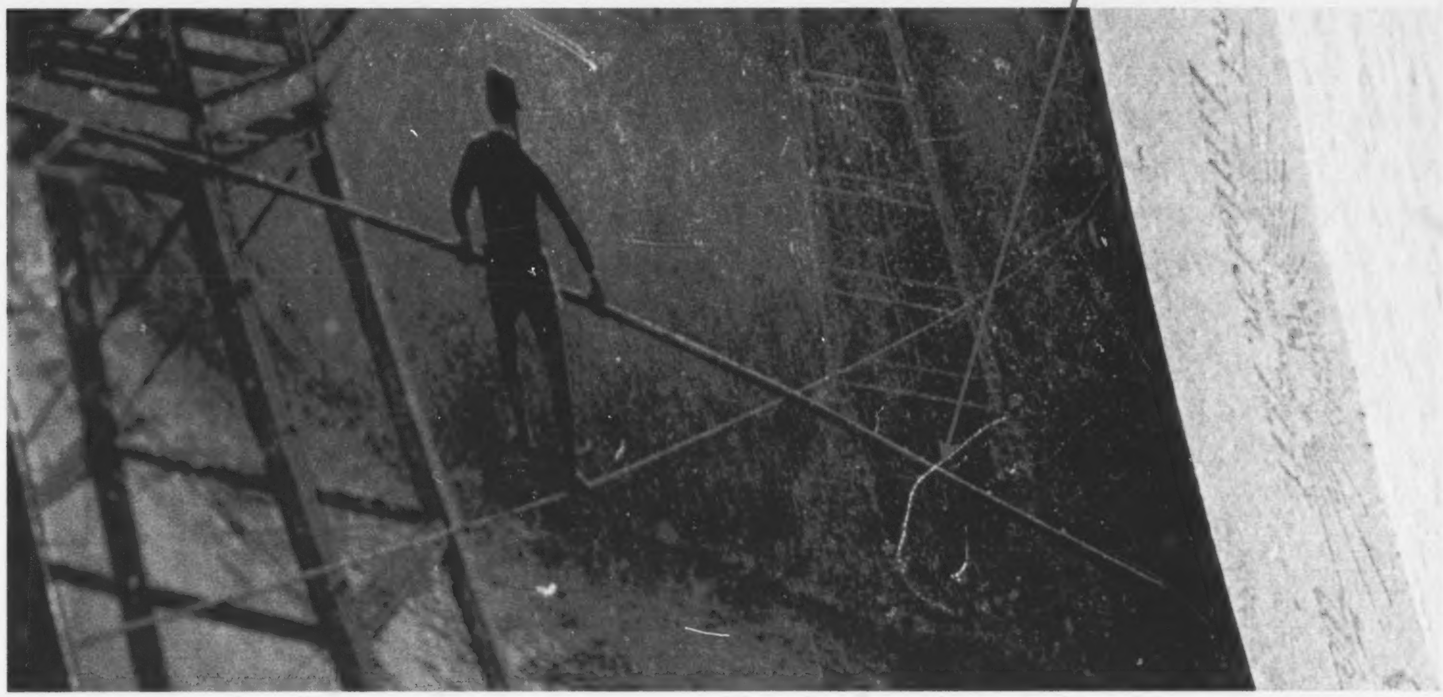

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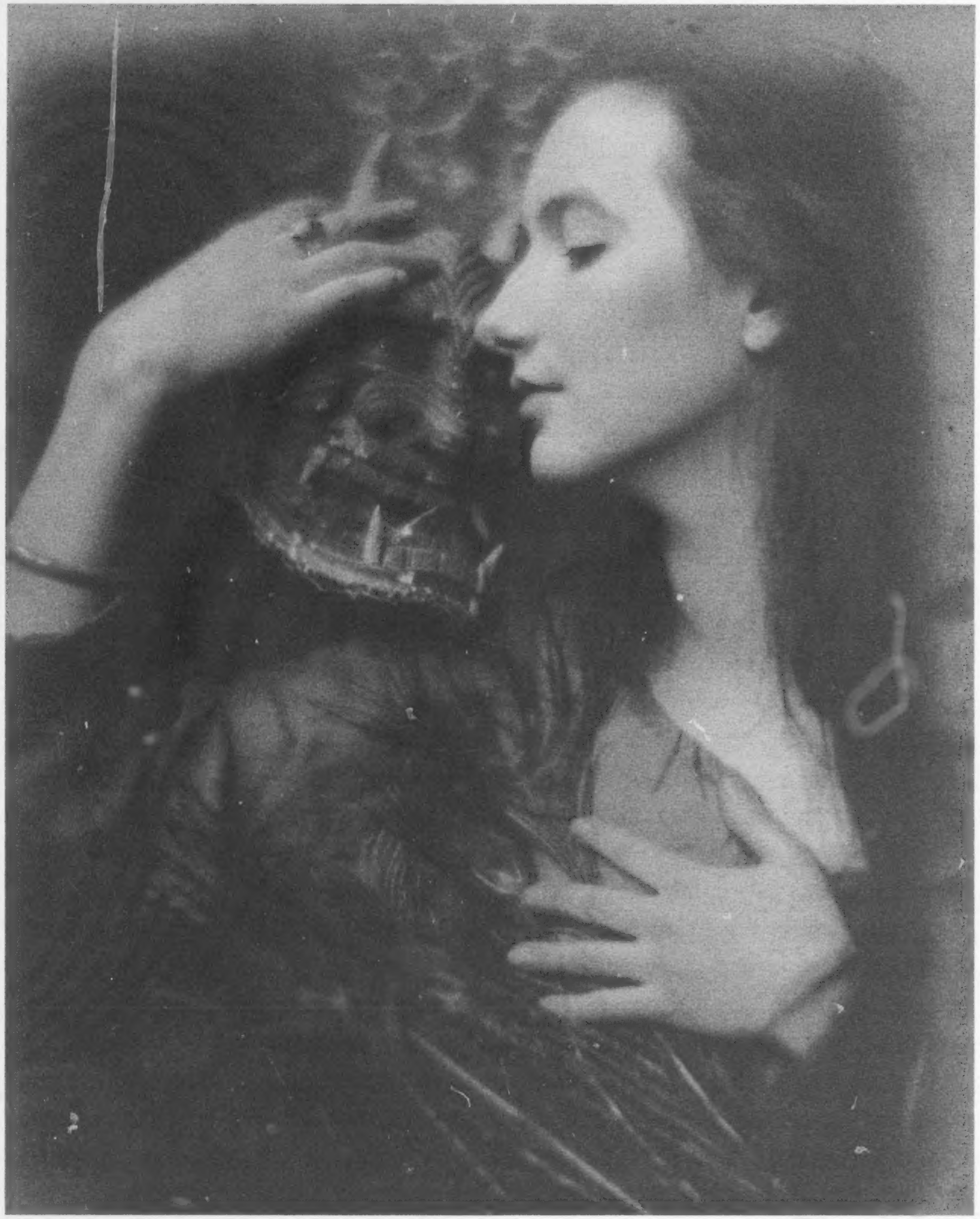
SILVER MIRRORING

Silver Mirroring is a bluish-metallic deposit or sheen cause by a physical alteration of the colloidal surface of a photographic emulsion. It can change in reflective light and appear iridescent, even bronze in colour if severe. Over time, air pollutants in the presence of heat and moisture can create a sustained migration of silver ions in all directions.



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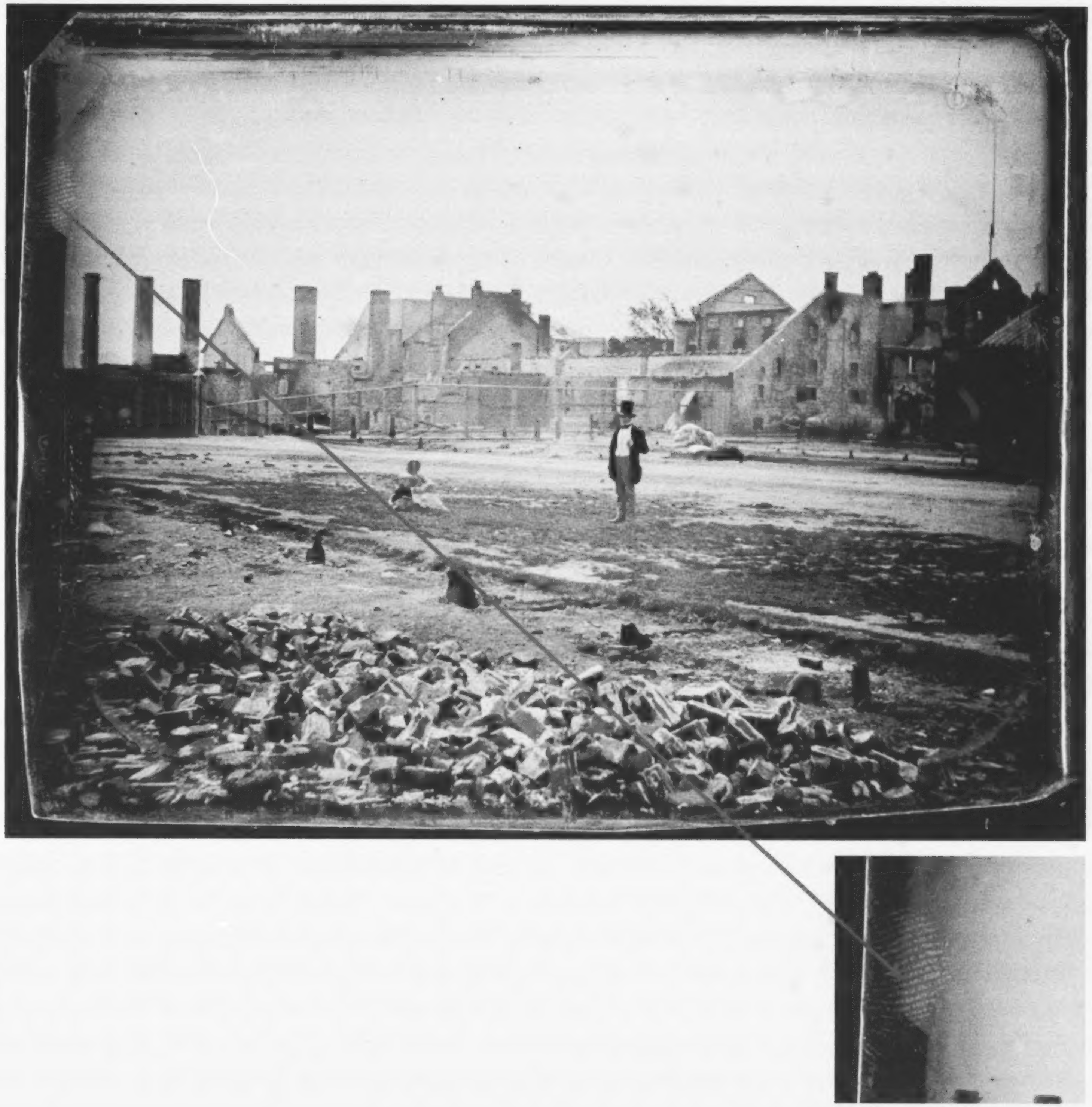
FINGERPRINT

A mark left on the surface of a photograph caused by the oil, dirt or salt from perspiration found on a fingertip.



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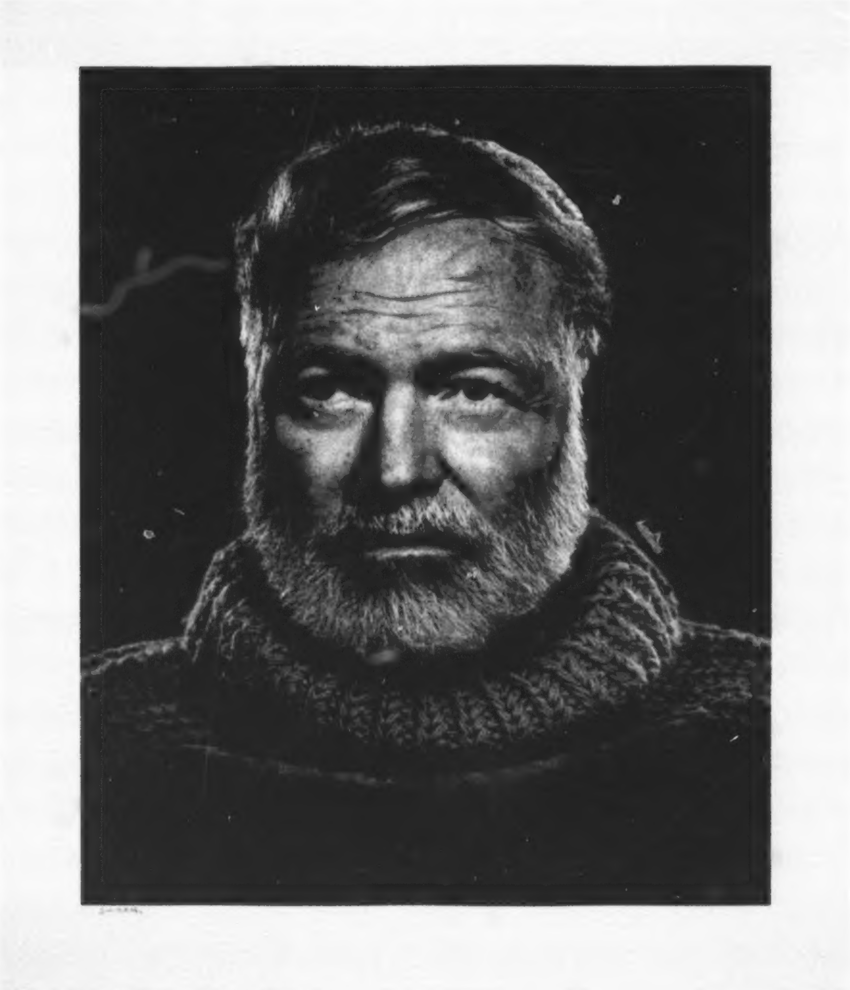
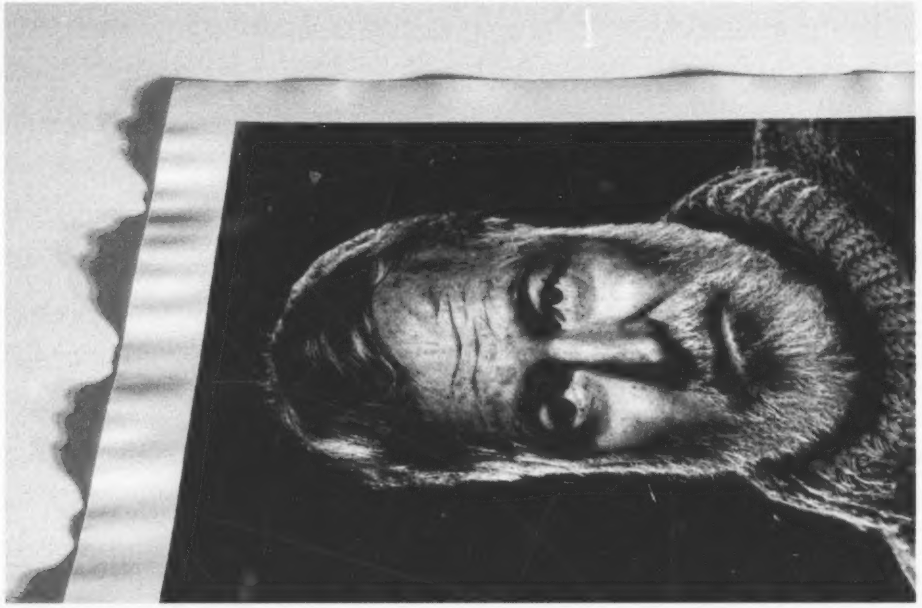
COCKLING

Wrinkling or puckering in a wave-like manner that occurs when a photograph or a support dries unevenly or due to an extreme change in relative humidity.



Credit: Yousuf Karsh



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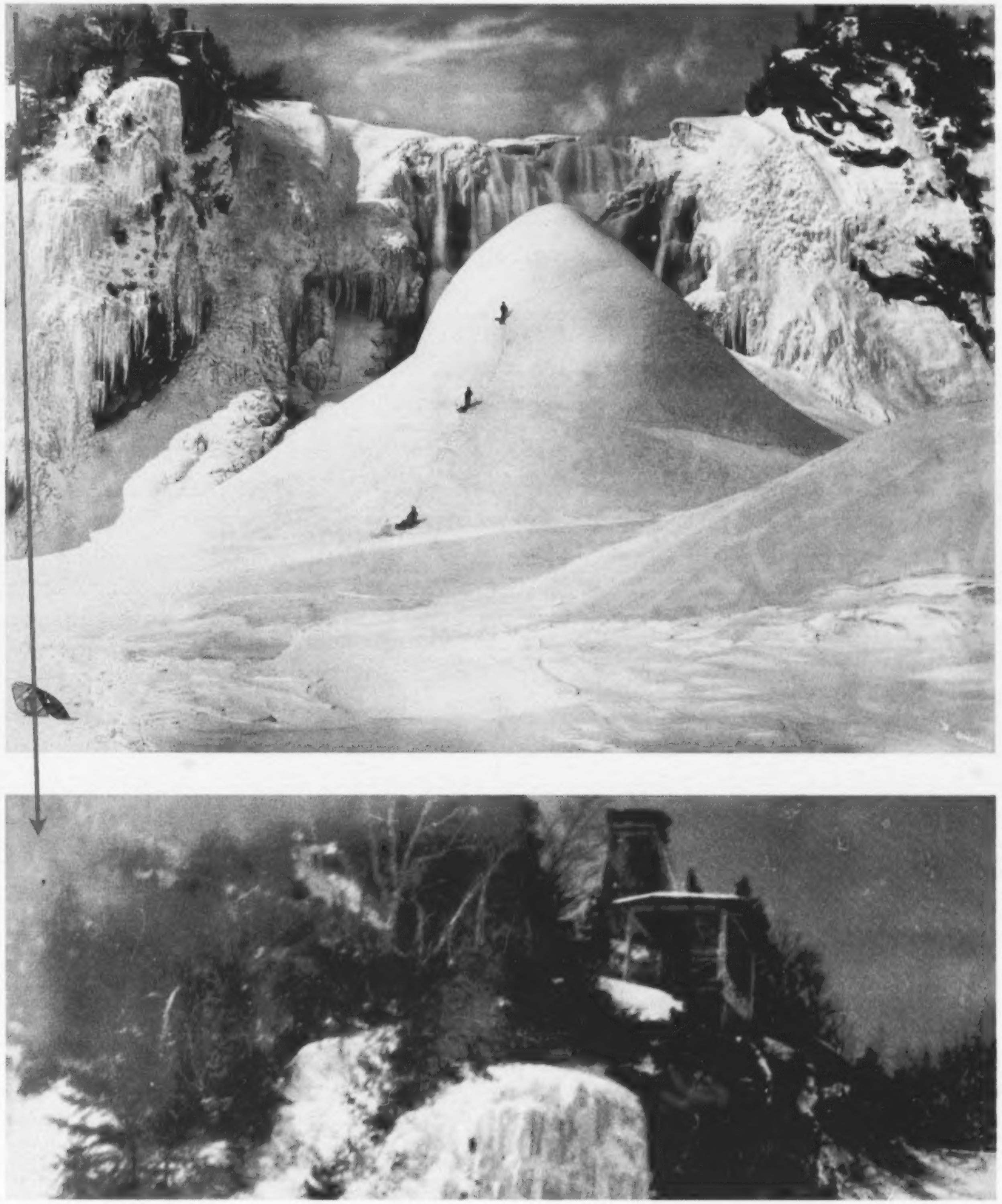
Related Media

YELLOW DISCOLOURATION

A change in colour of a photographic emulsion or a support, usually to a darker, more yellow or brown appearance. May be caused by light damage or exposure to acidic substances.



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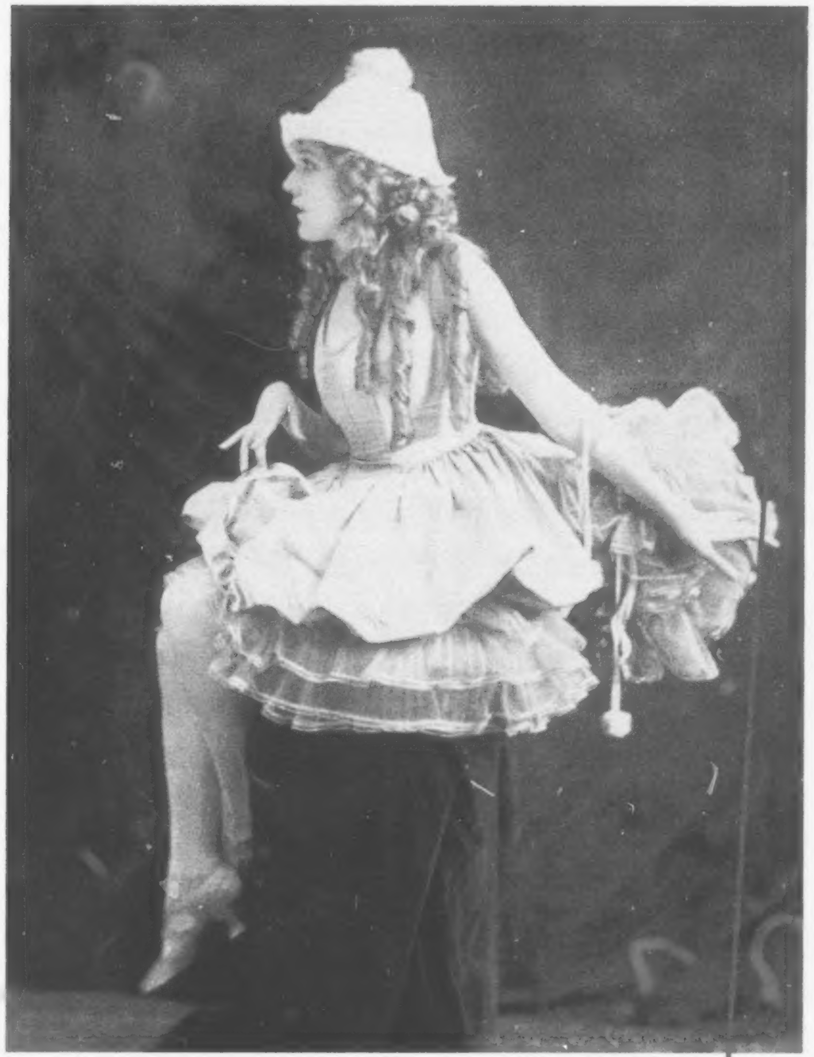
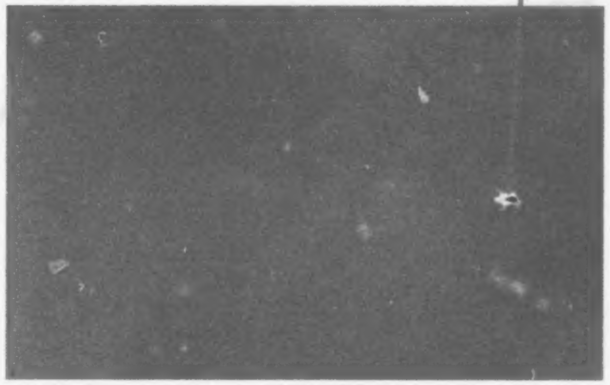
PUNCTURE

VARIANTS

Physical damage caused by a sharp object, resulting in a loss of the photographic emulsion and/or support.





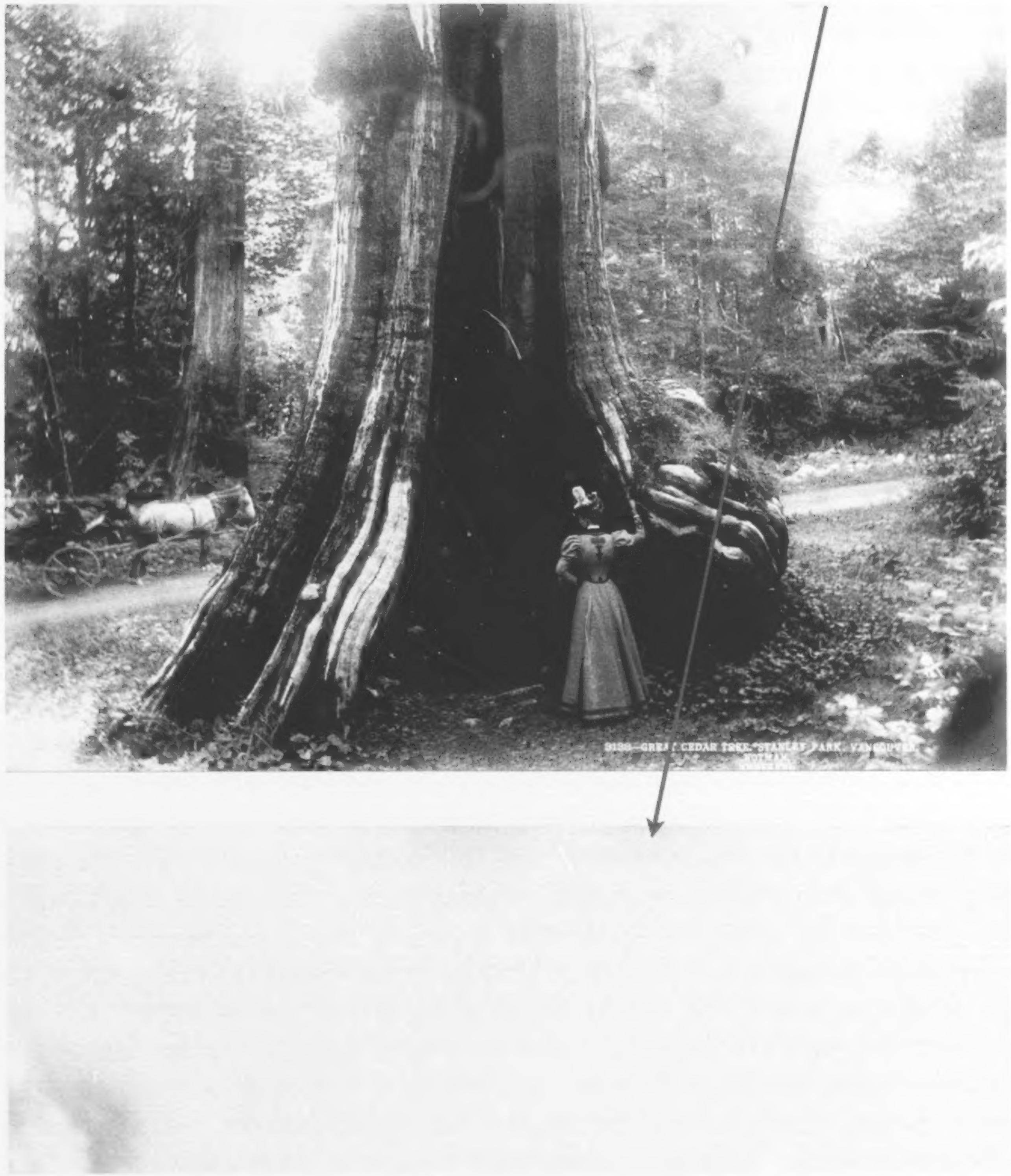
Link to Library and Archives Canada collection item

Related Media

STAIN

VARIANTS

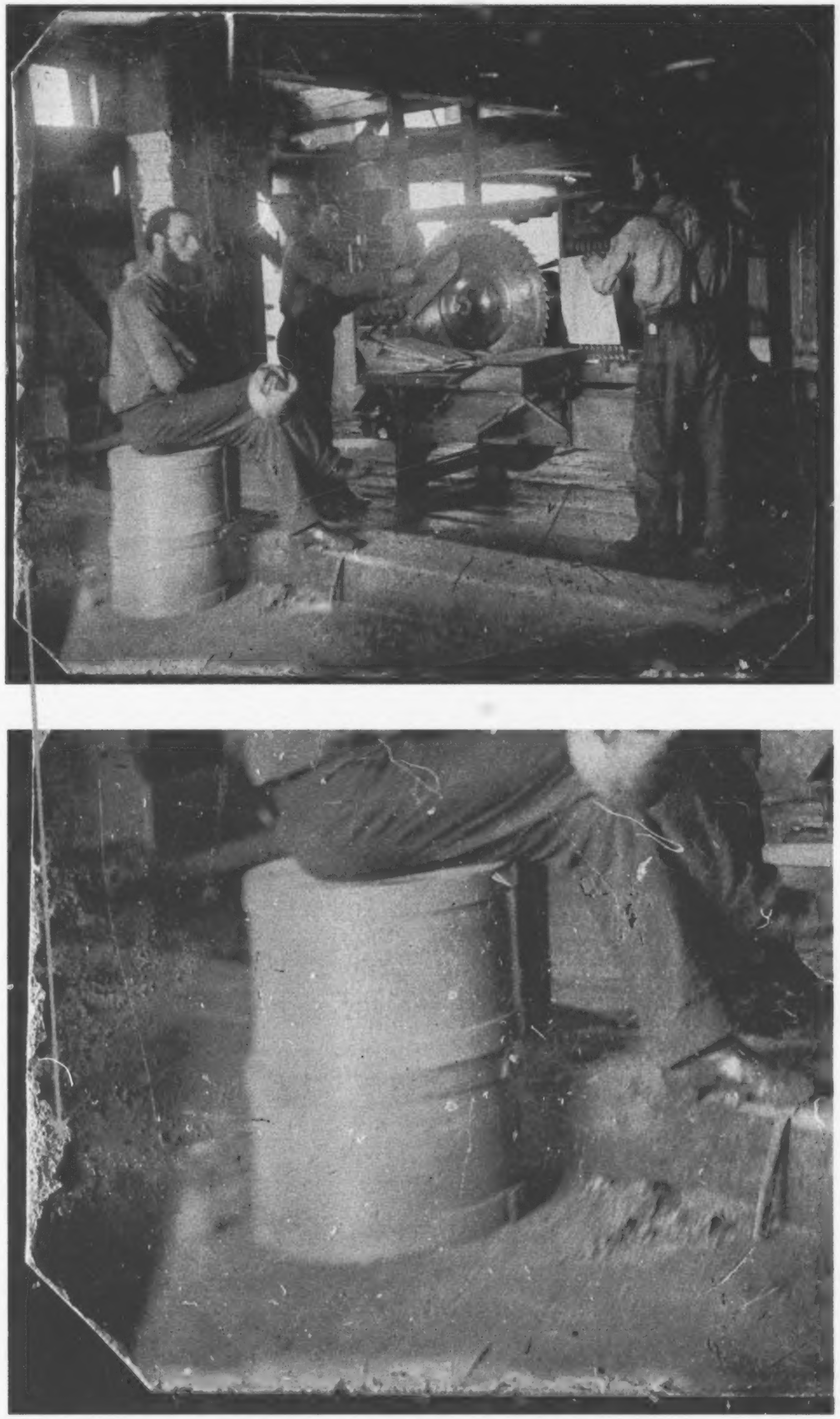
A discolouration that is caused by chemical or physical interaction between different materials.


3138—GREAT CEDAR TREE, STANLEY PARK, VANCOUVER.
NOTMAN

Link to Library and Archives Canada collection item

FLAKING OF EMULSION

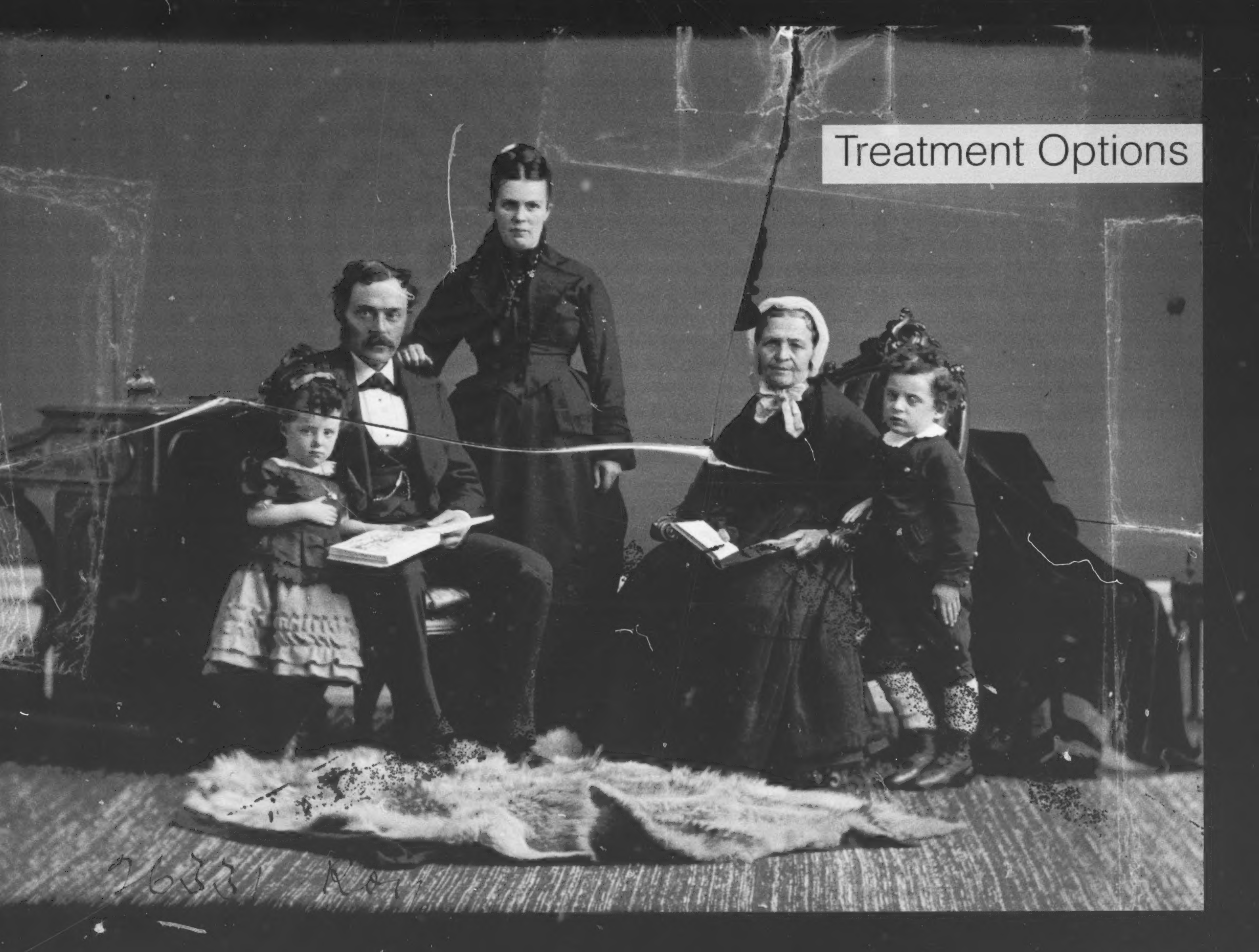
A small piece or fragment of emulsion that peels or falls away from the photographic support resulting in physical damage.



Link to Library and Archives Canada collection item

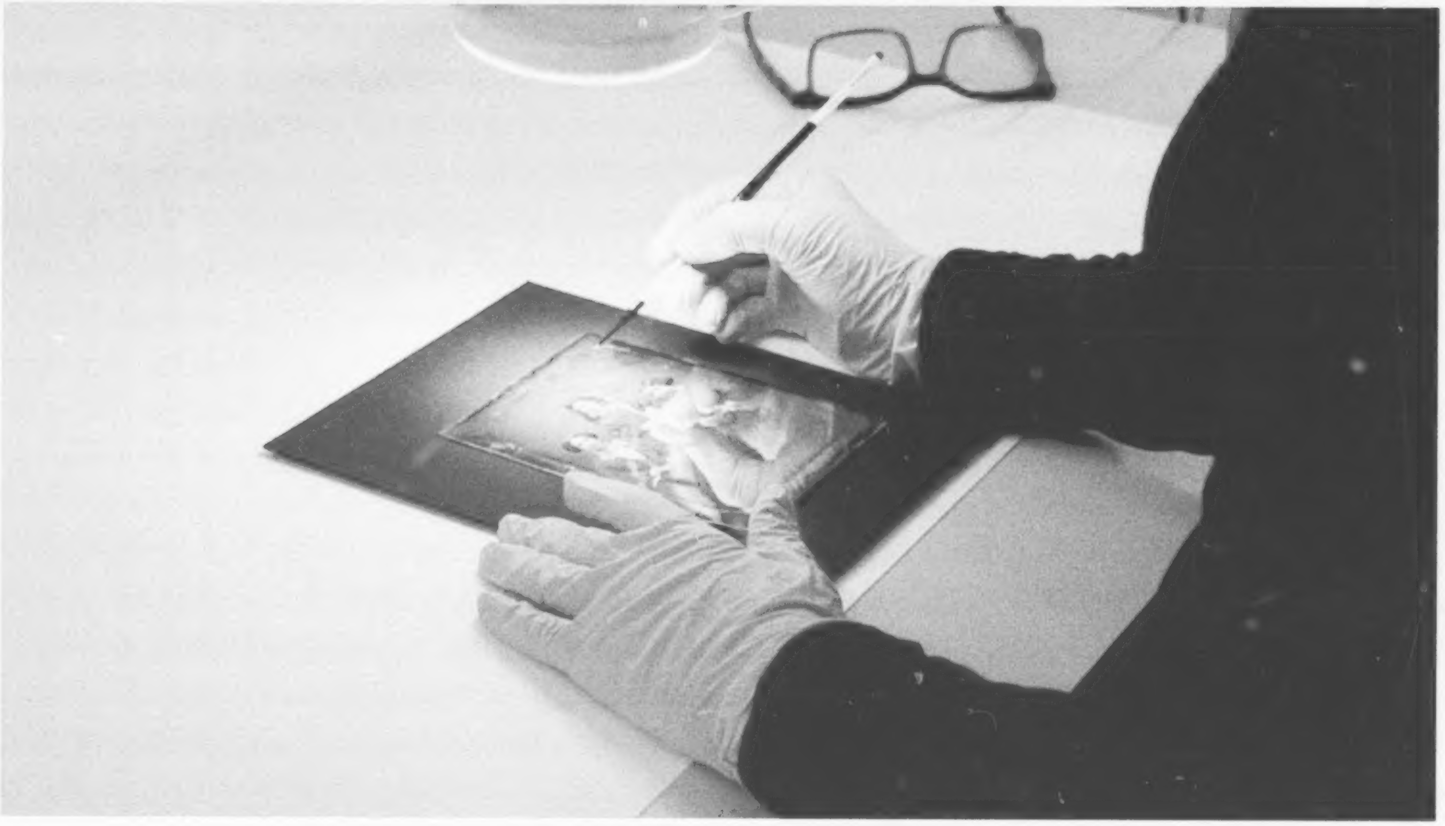
Related Media

Treatment Options



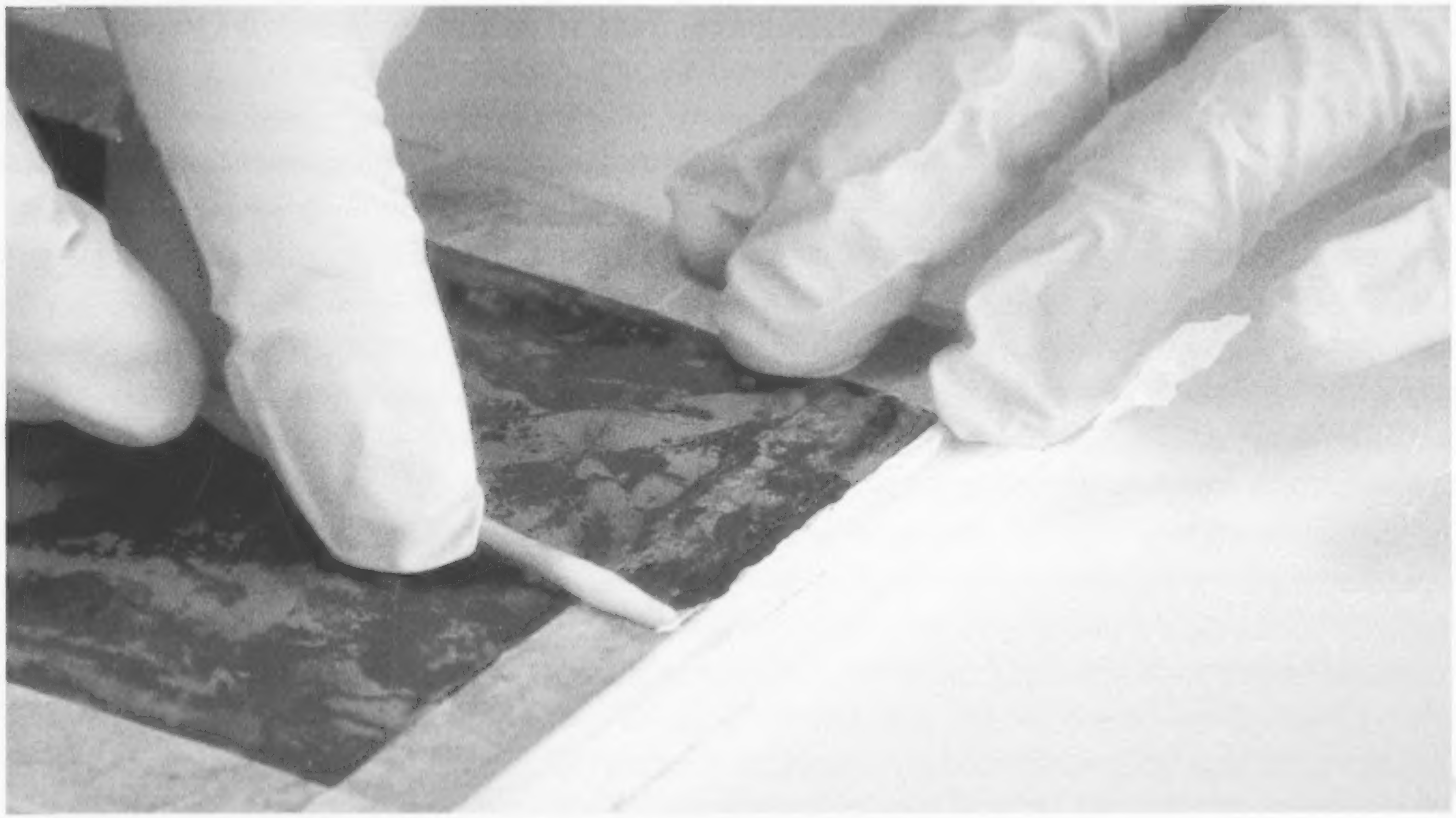
MOULD REMOVAL / REDUCTION

Mould is reduced/removed from a daguerreotype bare plate. Using a fine paint brush with one or two hairs remaining, the mould spider is gently brushed. A hurricane air blower is then used to blow away any loosened debris.



Link to Library and Archives Canada collection item

SEALING TAPE REMOVAL FOR CASED OBJECTS

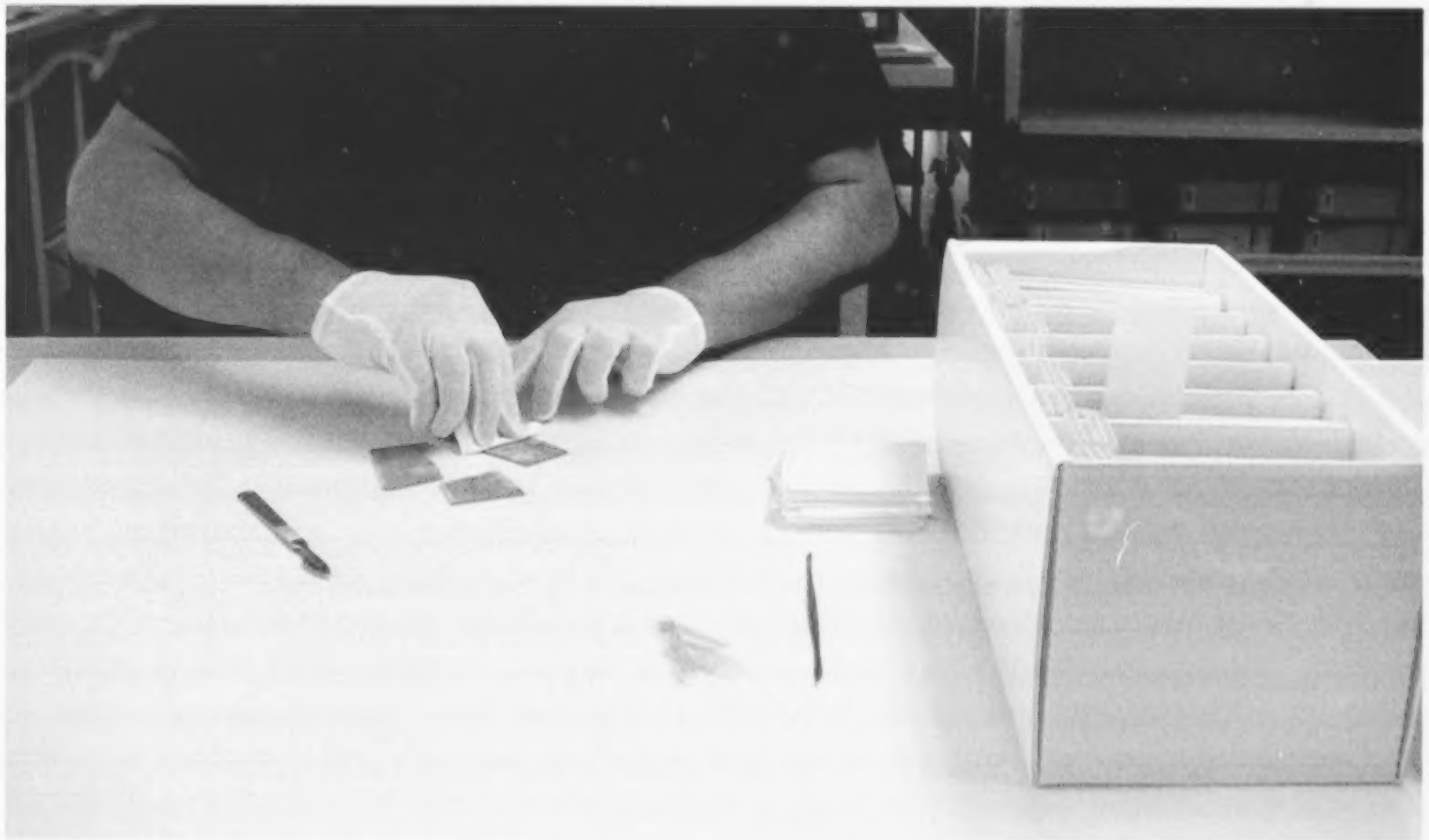


Conservation sealing tape is mechanically removed from the back of a bare plate daguerreotype. A cotton swab dipped in distilled water is passed slowly over the tape, as it is removed.

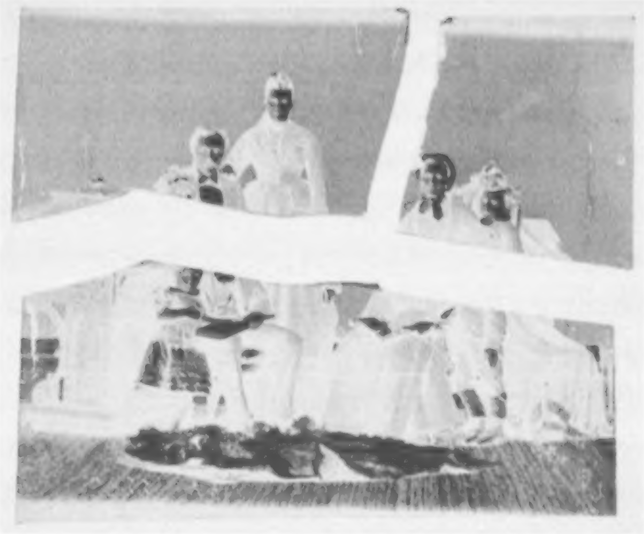
Link to Library and Archives Canada collection item

Related Media

GLASS PLATE REPAIR



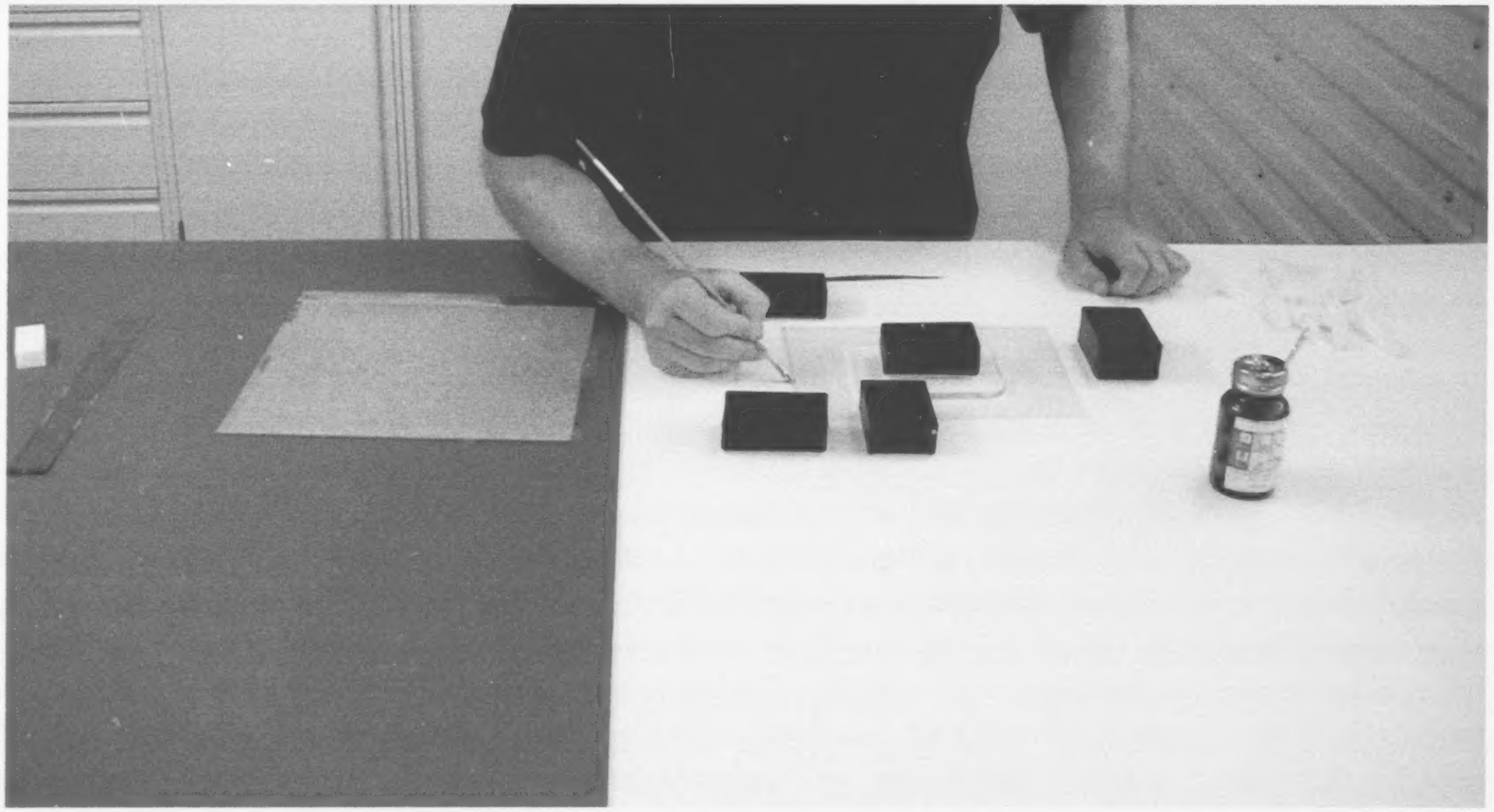
A repair on glass plate negatives uses a two-part epoxy. The epoxy is prepared and dabbed along one edge of the broken glass plate. The two pieces are then attached and held together using pressure. The plate is left to dry under weights.

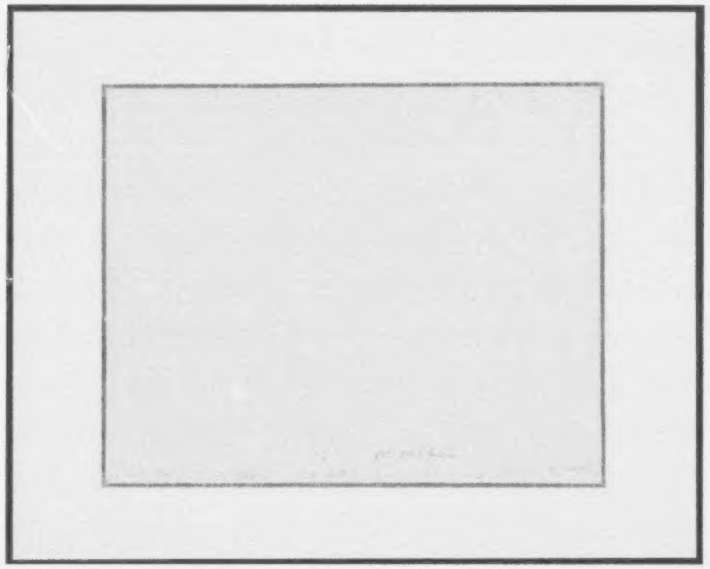


Link to Library and Archives Canada collection item

WINDOW MOUNT

This technique can be used with a curling print requiring a mount for exhibition or storage. A mount paper that is slightly thicker than the photograph is chosen. A window is cut out to accommodate the photograph. Small strips of Japanese tissue pre-coated with Klucel®-G are reactivated with a solvent and placed along all four sides of the photograph and the mount paper.

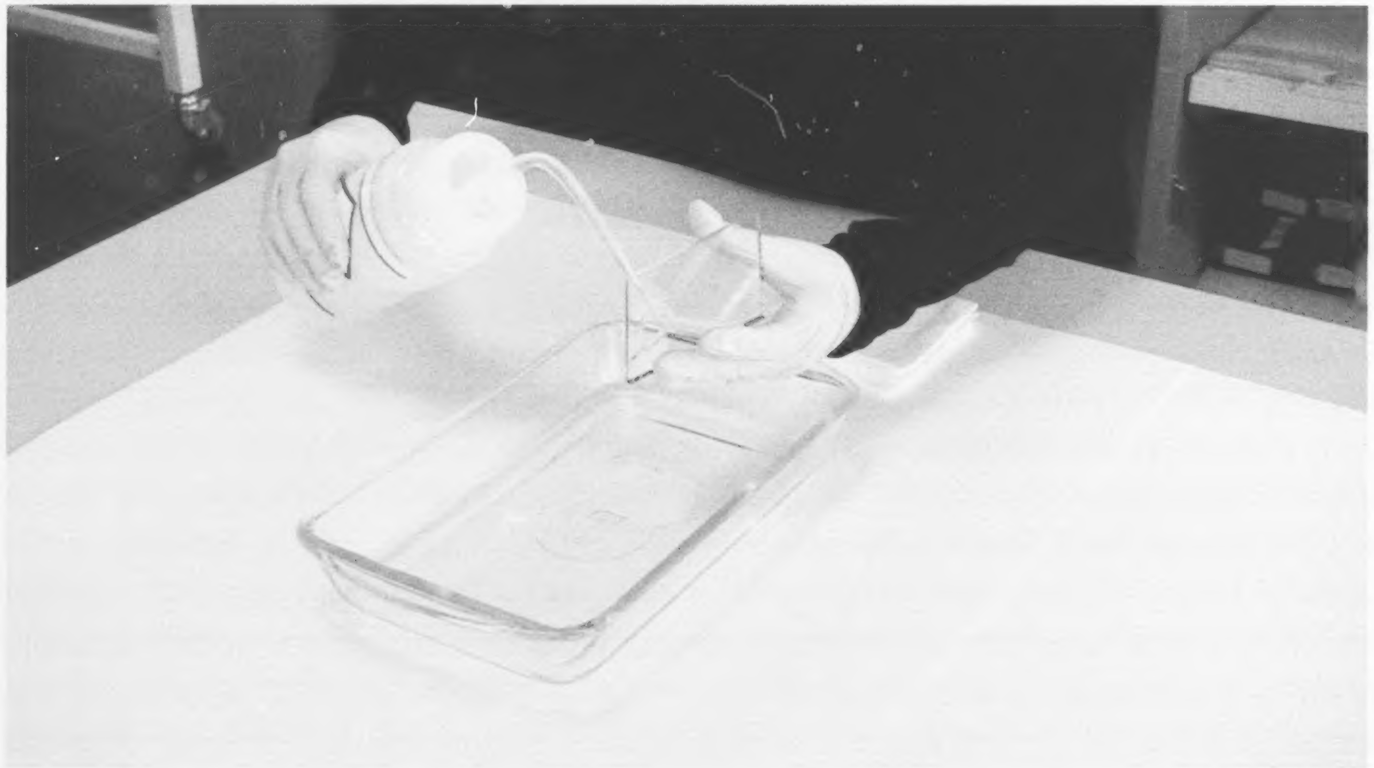




Link to Library and Archives Canada collection item

CLEANING OF ORIGINAL GLASS

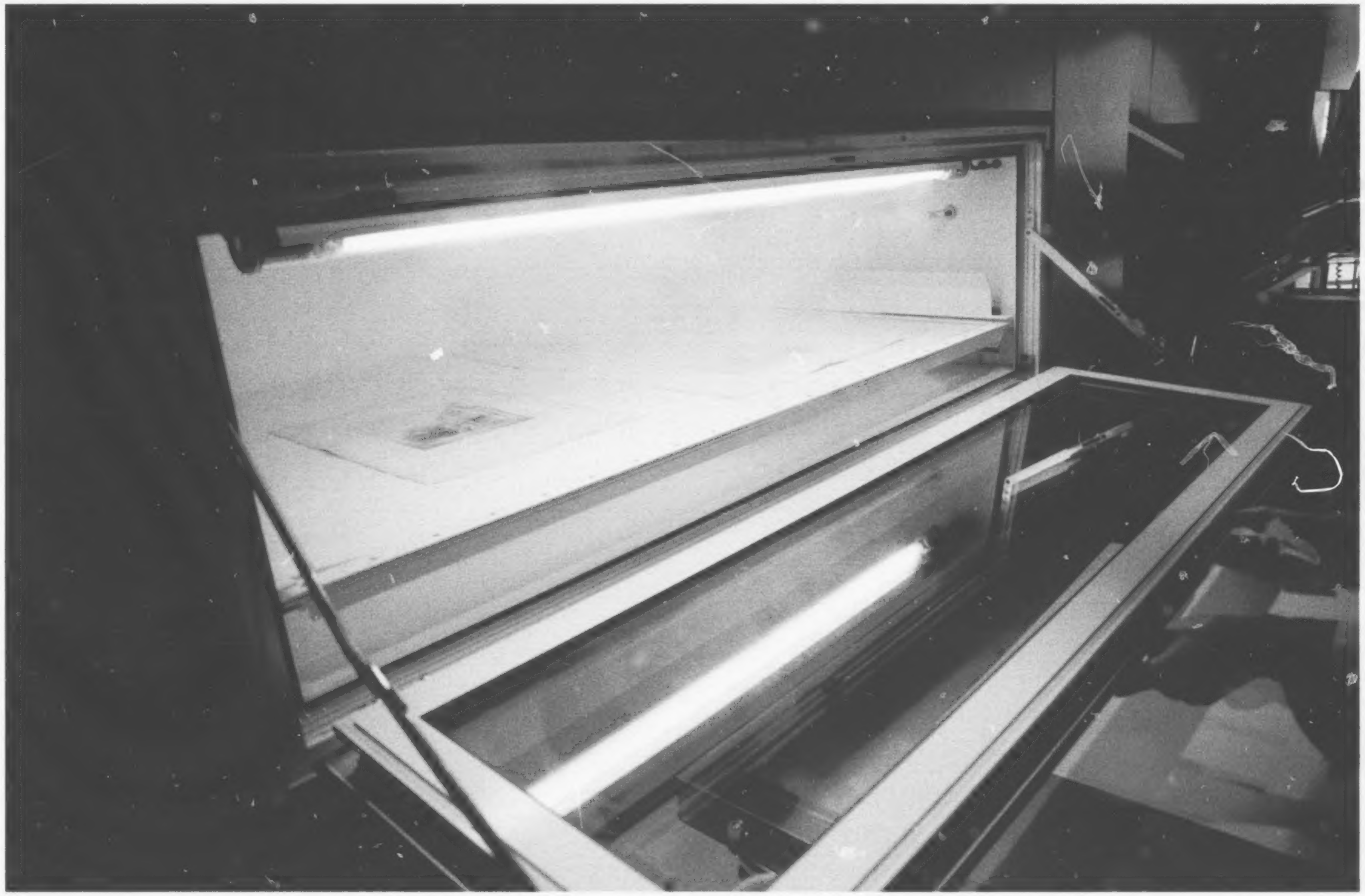
Original glass is rinsed with purified water and dried with a soft cotton, non-woven fabric. Sometimes a mild soap is used. The last rinse can be either ethanol or acetone. The glass is then placed on its edge and air-dried in a dust-free area.



Link to Library and Archives Canada collection item

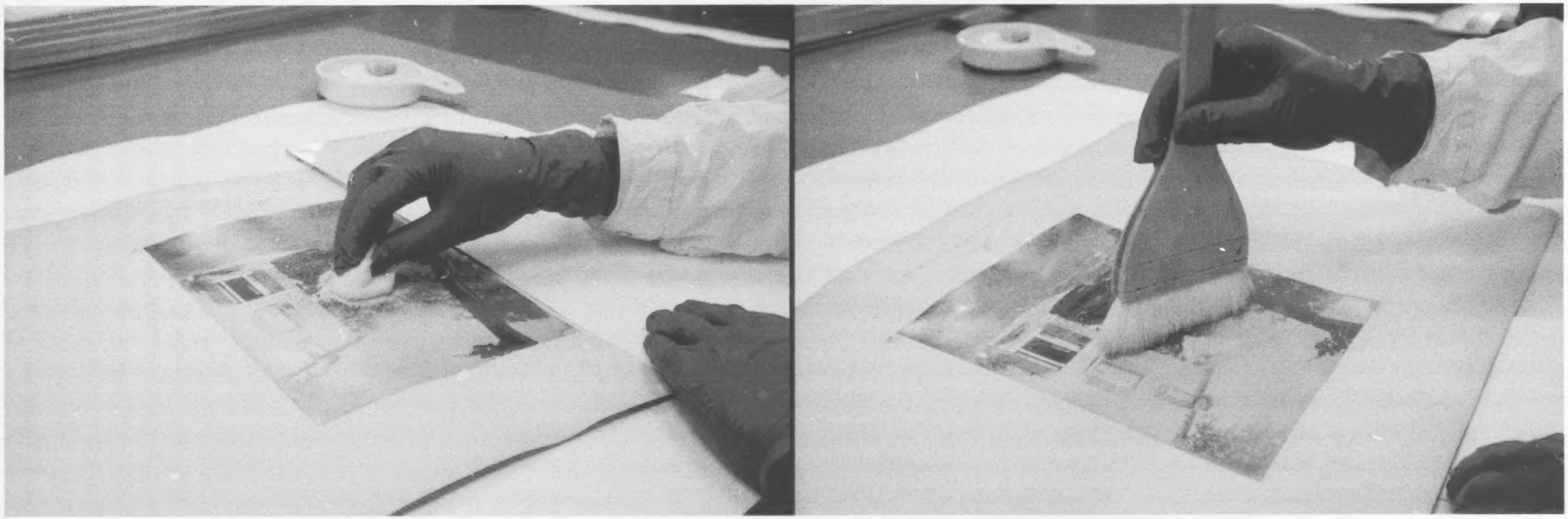
Related Media

HUMIDIFICATION



When a photograph has mechanical deformities such as creases, bends or wrinkles, the conservator flattens the photograph. In most cases, the photograph is first gradually and lightly humidified to relax it. Then, the image must be dried slowly and completely.

Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website



DRY CLEANING

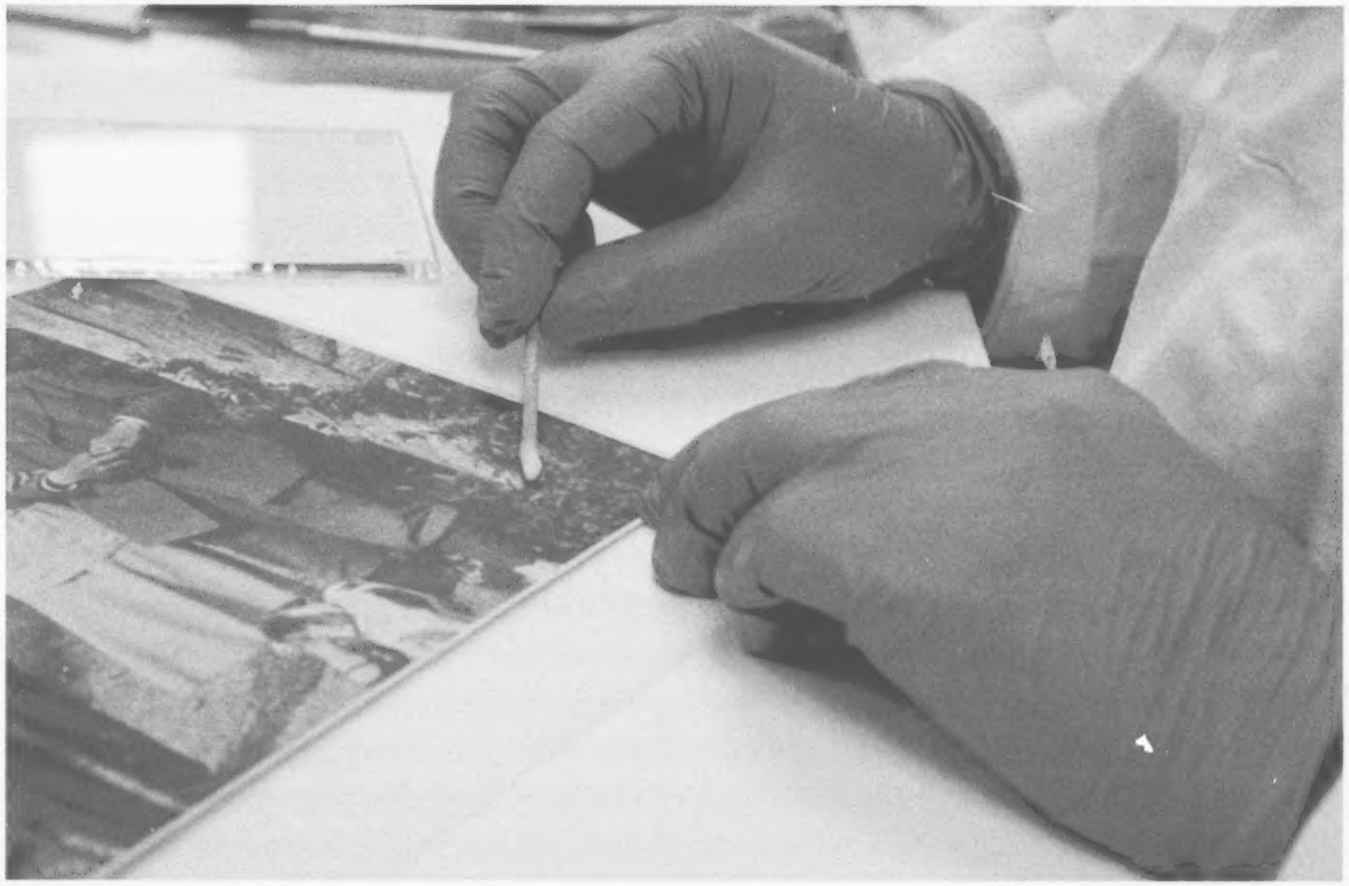
To ensure the stability and clarity of the works, the conservator dry cleans the primary and secondary supports when they are soiled. The object is first brushed to removed dust. Then a kneaded or grated eraser is applied with or without a piece of cotton. After it is cleaned, the eraser is brushed away.

Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website

CLEANING WITH SOLVENTS

VARIANTS

When photographs have heavy dirt marks or stains that are resistant to dry cleaning, the conservator cleans them with solvents. The choice of solvent, used alone or in a mixture, and its method of application depend on the sensitivity of the process and the solubility of the residue needing to be removed.



Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website

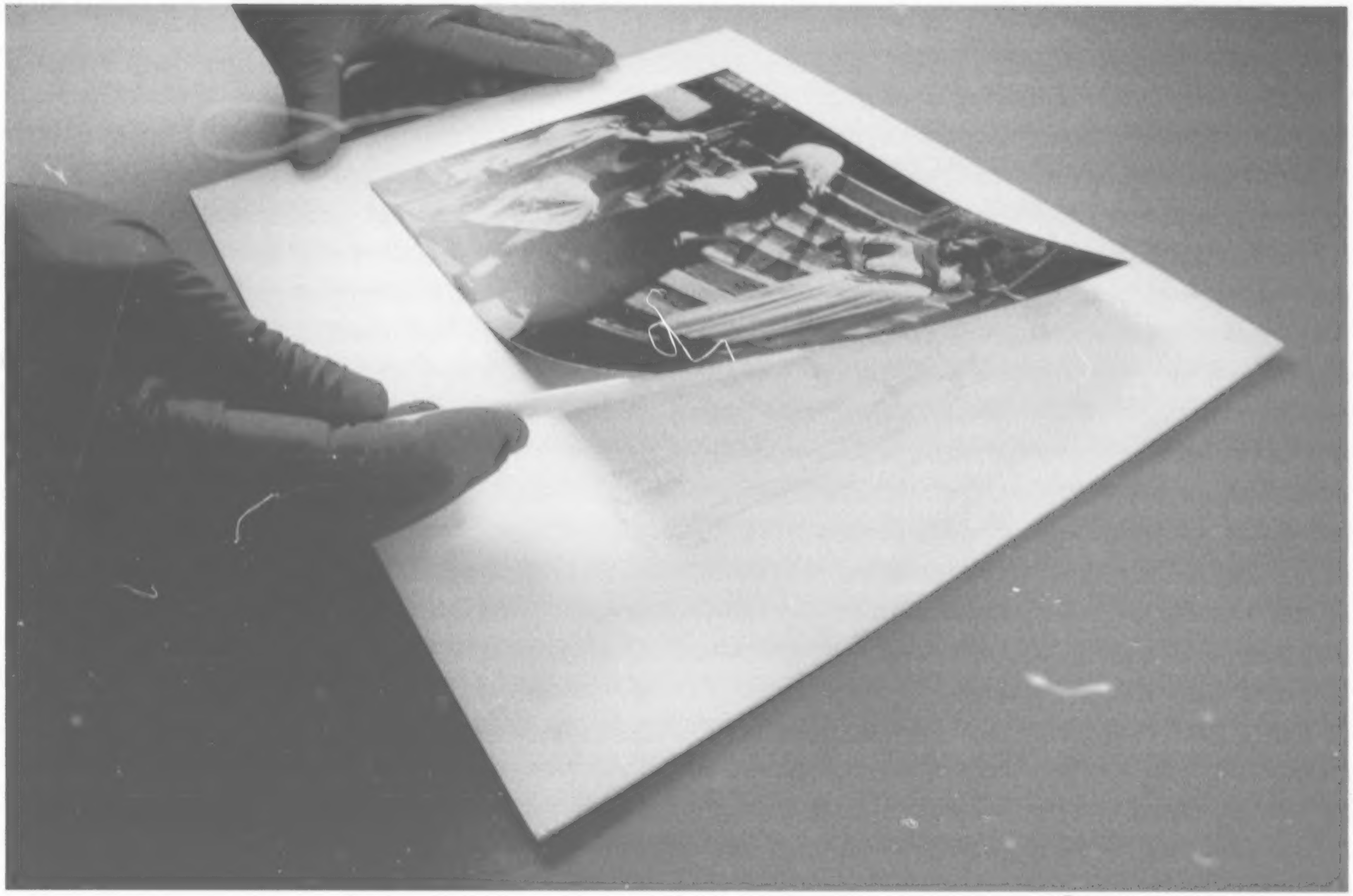
CONDITION REPORT

The condition report is where information on the condition of a work is recorded before any intervention or exposure: the references of the work, the photographic process and any mechanical, biological or chemical deterioration. The condition report helps determine preventative measures and stabilization or conservation treatments.

Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website

REMOVAL FROM MOUNT

Unmounting consists of removing a photograph from its secondary support. This is done only when it is absolutely nécessary for the preservation of the work.



Credit: Nathan Lerner

Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website

LINING

When a photograph's support has fragile areas such as creases or tears, the conservator uses lining to ensure safe handling. This strengthening procedure consists of attaching a suitable paper to the back of the photograph.

Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website

MICRO-SEALING

Micro-sealing consists of creating a semi-hermetic mount to isolate a particularly sensitive photograph and to minimize any risk of deterioration caused by the harmful effects of the environment.

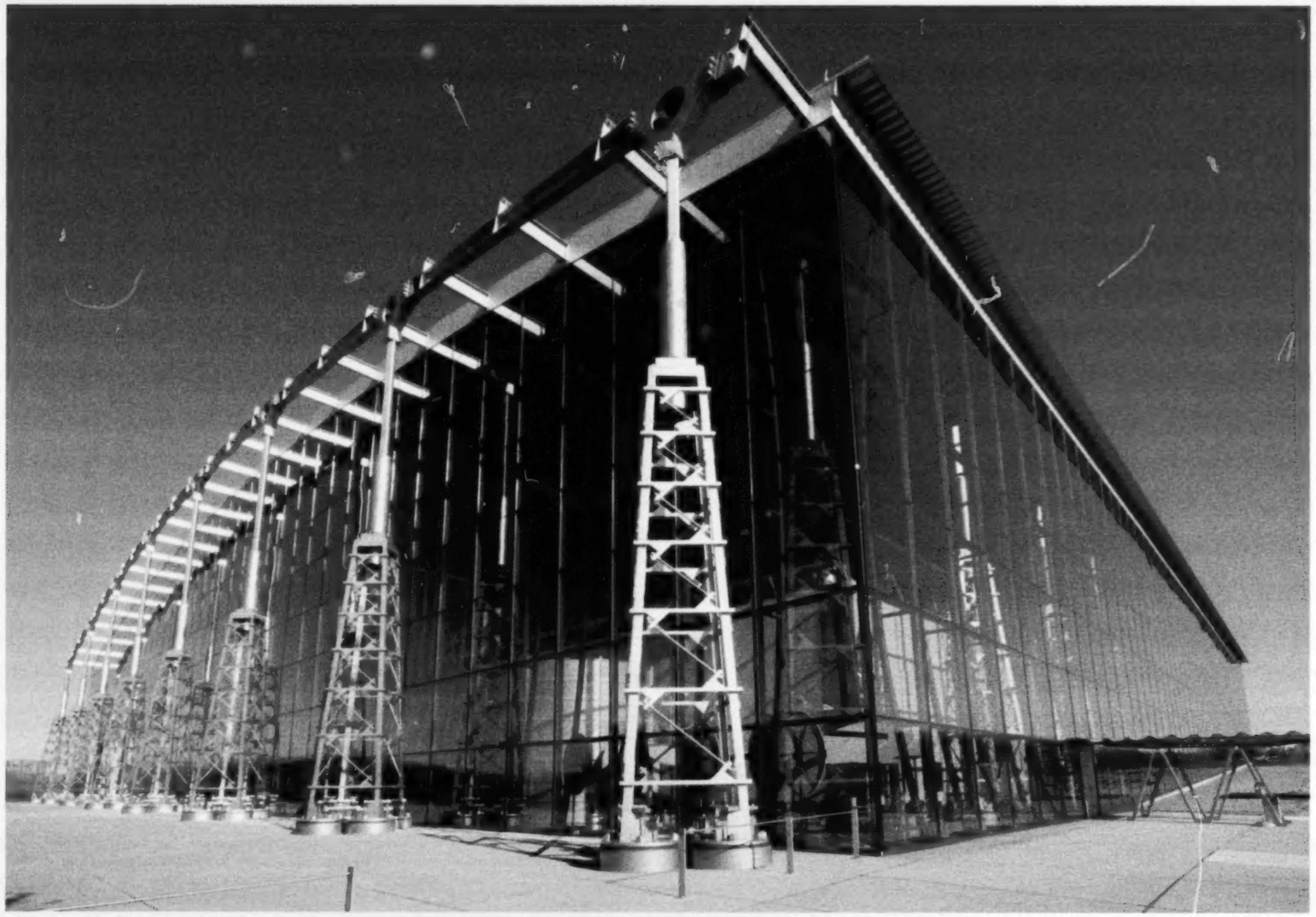
Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website

Preventative Care

LIBRARY AND ARCHIVES CANADA PRESERVATION CENTRE

Preservation is a core activity at Library and Archives Canada (LAC). A large part of this preservation work is done at the Preservation Centre in Gatineau, Quebec.

The Library and Archives Canada Preservation Centre opened in June 1997. Its facilities are dedicated to the preservation of the country's documentary heritage. This centre of excellence provides collection storage areas with optimum environmental conditions, and laboratories equipped for preservation activities.



Related Media

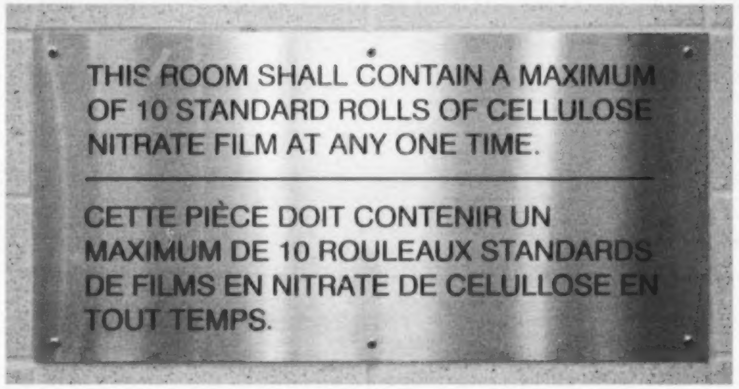
NITRATE FILM PRESERVATION FACILITY

Library and Archives Canada's Nitrate Film Preservation Facility was opened in 2011. It is an eco-designed building with various sustainable features, including a green roof, well-insulated walls to reduce energy consumption, high-efficiency mechanical systems to reclaim energy and technology to reduce water use.

This facility stores approximately 5,500 nitrate motion picture film reels and an estimated 600,000 still photographic films.

There are 20 cool vaults kept at +2°C, 25% RH and 3 acclimatization vaults kept at +10°C, 25% RH.

Centre de préservation


THIS ROOM SHALL CONTAIN A MAXIMUM OF 10 STANDARD ROLLS OF CELLULOSE NITRATE FILM AT ANY ONE TIME.
CETTE PIÈCE DOIT CONTENIR UN MAXIMUM DE 10 ROULEAUX STANDARDS DE FILMS EN NITRATE DE CELULLOSE EN TOUT TEMPS.

Related Media

STORAGE VAULTS FOR PHOTOGRAPHIC MATERIALS

VARIANTS

At Library and Archives Canada, currently there are 48 vaults measuring approximately 350 square metres each and housing a variety of archival records and publications, in four different environments. The vaults are designed to protect documents by eliminating potential threats, by using a sophisticated fire detection and suppression system. Materials inside the vault are carefully controlled to maintain a contaminant-free environment.

There is one main vault that houses photographic materials, mostly black-and-white photographic prints, glass plate negatives and cased objects. Other photographic materials are stored among the many vaults. Library and Archives Canada has the largest photographic collection in North America, with approximately 30 million items.

Photographs in the main vault are stored in boxes on mobile shelving at 18°C (± 2°C) and 40% RH (± 5%).

Related Media

COLD STORAGE VAULTS

VARIANTS

Library and Archives Canada currently has two cold vaults which are approximately 350 square metres each. These two cold vaults are connected by an interior door. One of the cold vaults has two acclimatization chambers. These cold storage vaults house colour photographic prints, colour negatives and deteriorated diacetate negatives, as well as other collection materials.

The environment is maintained at -18°C (± 2°C) and 30% relative humidity (± 5%).

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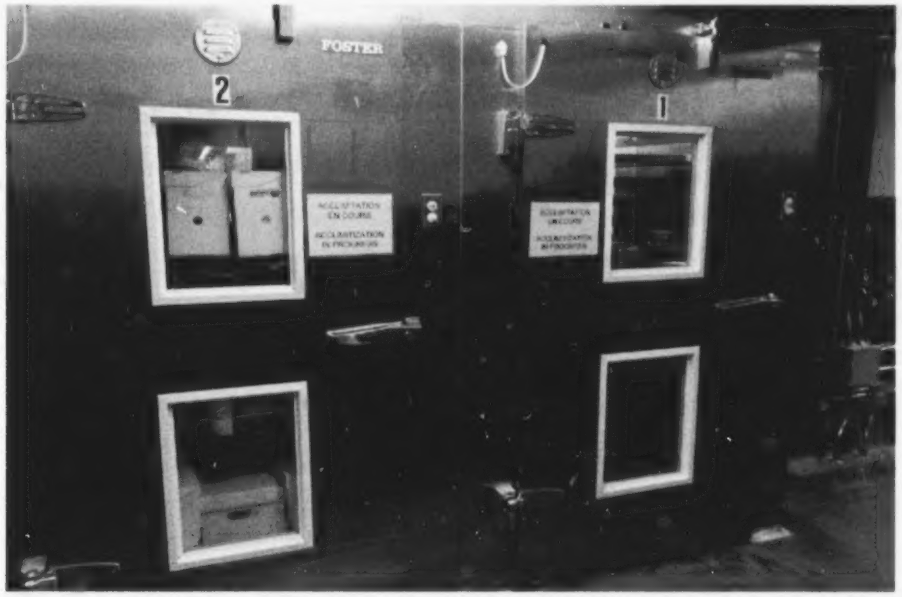
FOSTER
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ACCLIMATATION EN COURS
ACCLIMATIZATION IN PROGRESS

Related Media

GENERAL CARE AND HANDLING

- Keep food and drink away from working areas.

- Keep working areas clean.

- Keep hands clean and dry when handling photographs.

- To prevent fingerprints, wear gloves such as non-scratching, lint-free microfiber, cotton or nitrile gloves depending on the type of photograph.

- If emulsion is flaking use nitrile rather than woven gloves, to prevent the glove from catching on the photograph.

- Important to choose a correct size of gloves. Make sure the glove is tight fitting in the fingertips and in the hand, to prevent possible damage.

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X-ray of Veronica Tennant's feet
Image courtesy of Veronica Tennant, C.C. Prima Ballerina National Ballet of Canada, 1964-1989

- Remove materials that may damage the photograph, such as kraft envelopes; manila folders; glassine envelopes; cardboard, vinyl or polyvinyl chloride (PVC) sleeves; metal fasteners (paper clips); rubber bands; and adhesive notes.

- Photographs should be housed in paper enclosures.

- When warranted, use inert plastics such as uncoated polyethylene or polyester.

- Plastic sleeves come in several configurations. The L-shaped (sealed on one long side and one short side) is the most useful and the easiest to work with.

- If necessary, use a soft pencil.

Link to Library and Archives Canada collection item

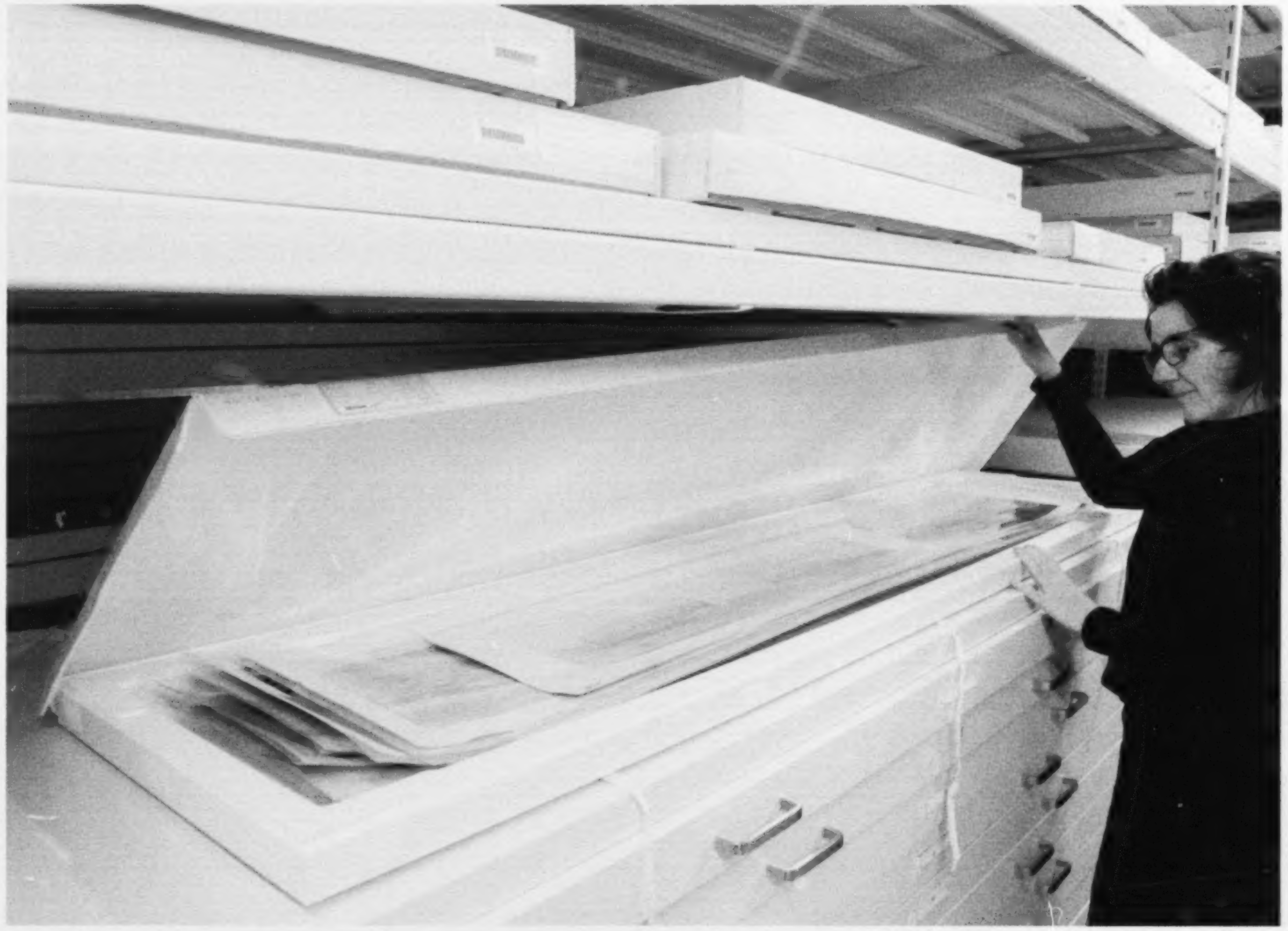
HOUSING FOR PANORAMIC PRINTS

- Relax rolled panorama prints and store flat.

- Encapsulate them individually in plastic sleeves for easy visual reference and handling.

- Store them in Coroplast® boxes with Velcro® fasteners and twill fabric ties.

- Leave brittle or difficult prints rolled and store them in a box separately from flat prints, until it is possible to have them relaxed.



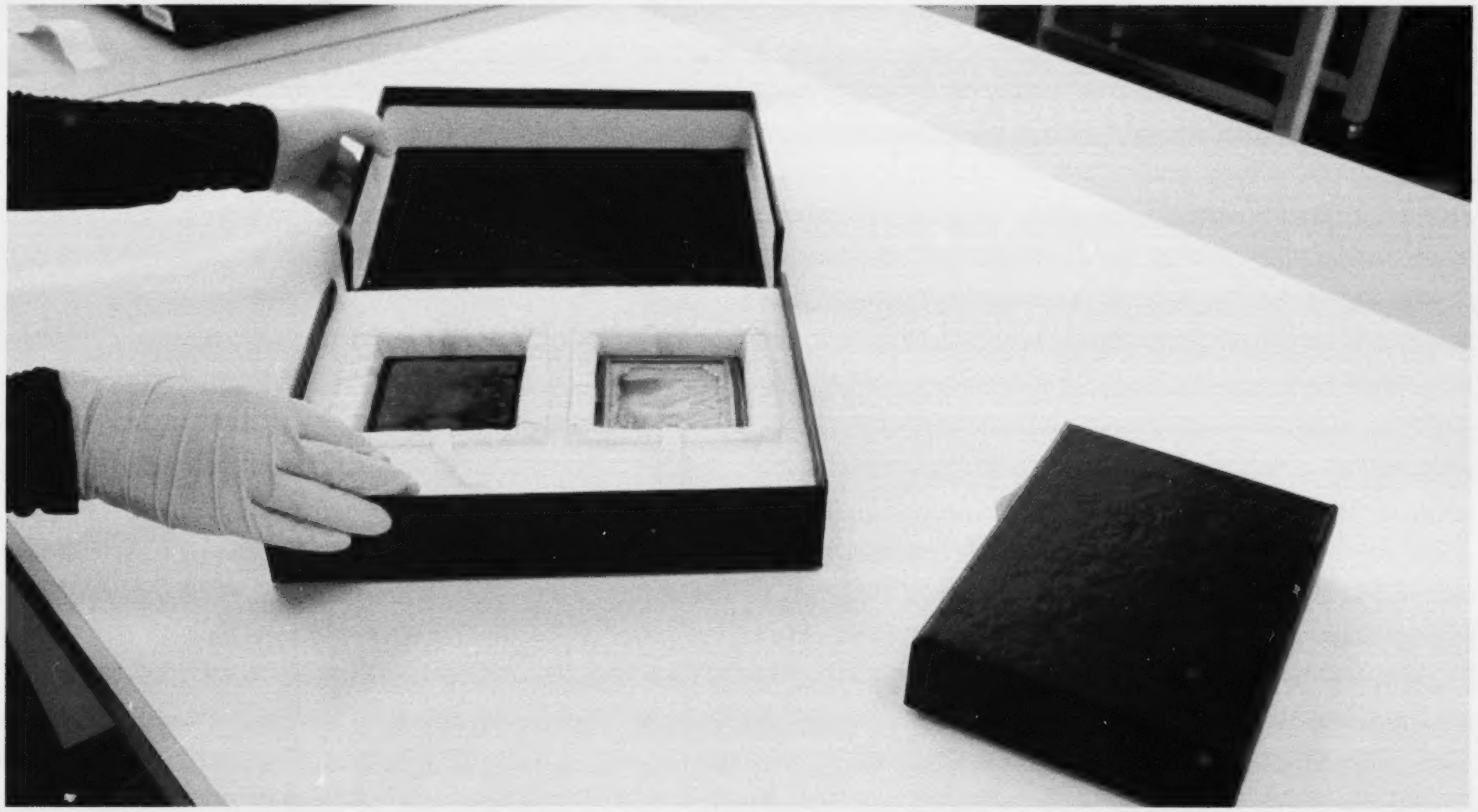
Link to Library and Archives Canada collection item

Related Media

STORAGE BOXES FOR CASED OBJECTS

VARIANTS

Storage boxes made for cased objects contain minimal adhesive. These custom-made Solander storage boxes use unbleached cotton muslin, twill or cotton tape ribbon, Ethafoam® and silver cloth, which scavenges oxidative gases as they enter the box.



Link to Library and Archives Canada collection item

Related Media

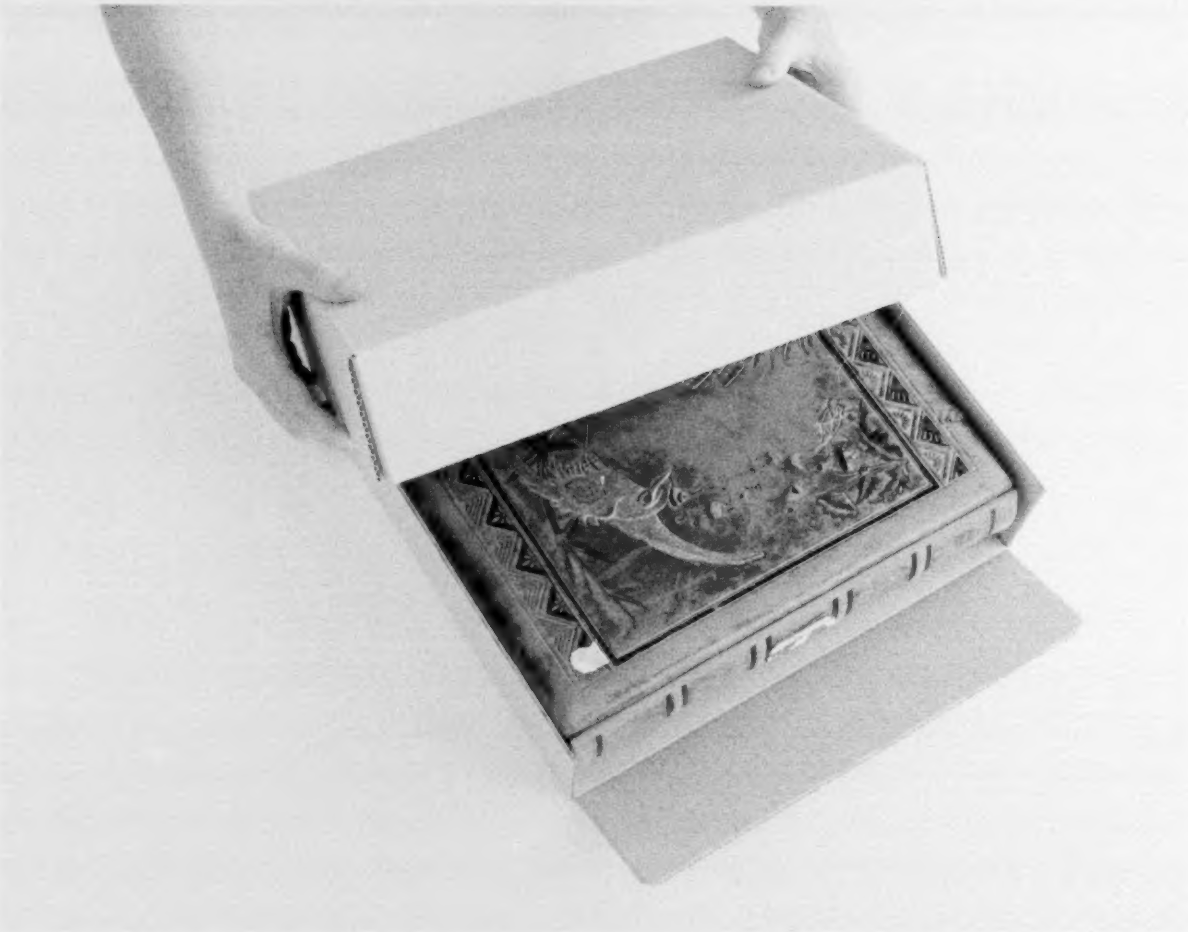
PDF - Instructions: Cased Object Housing Units

CUSTOM STORAGE BOXES

VARIANTS

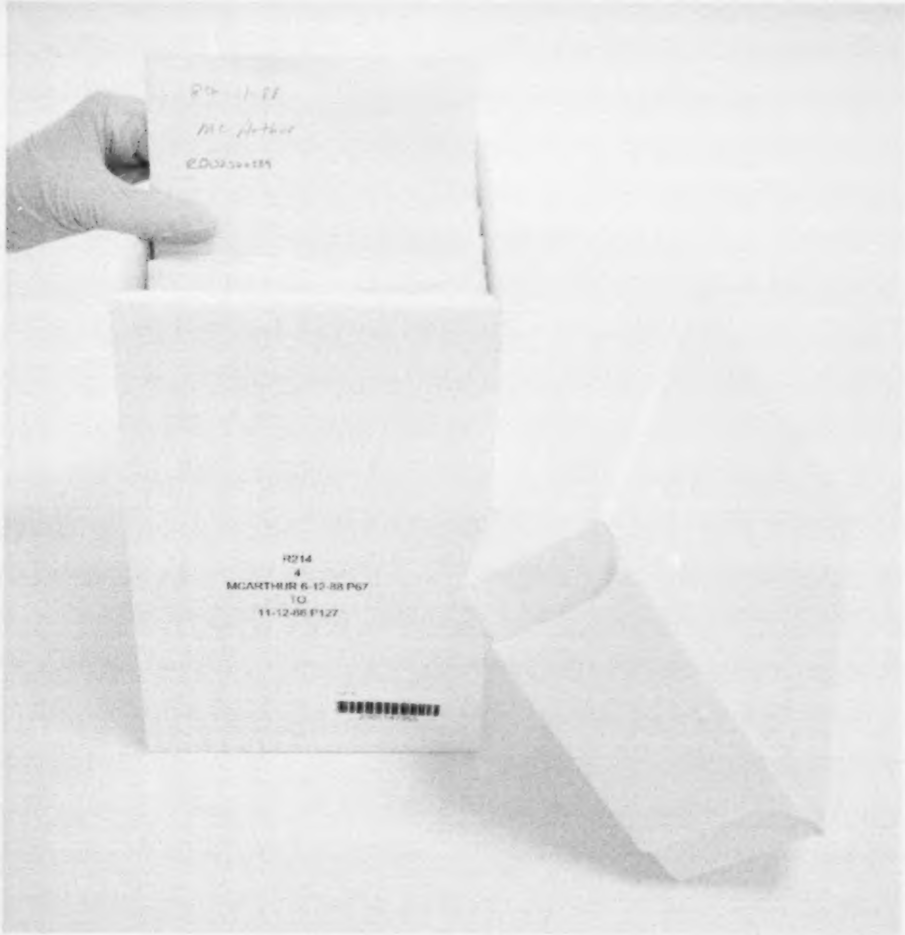
Specialized housing, such as a two-piece telescoping box, is made for photographs and photographic albums that do not fit in pre-made standard housing boxes.

Generally, albums are stored horizontally and one to a container. Spacers are placed around the album and a piece of archival board is placed under the album. Two albums can be housed in one box if they are properly supported and the lid can be comfortably closed.



Link to Library and Archives Canada collection item

PDF - Instructions for Custom Boxes



Credit: Mountain Legacy Project

GLASS PLATE STORAGE BOXES

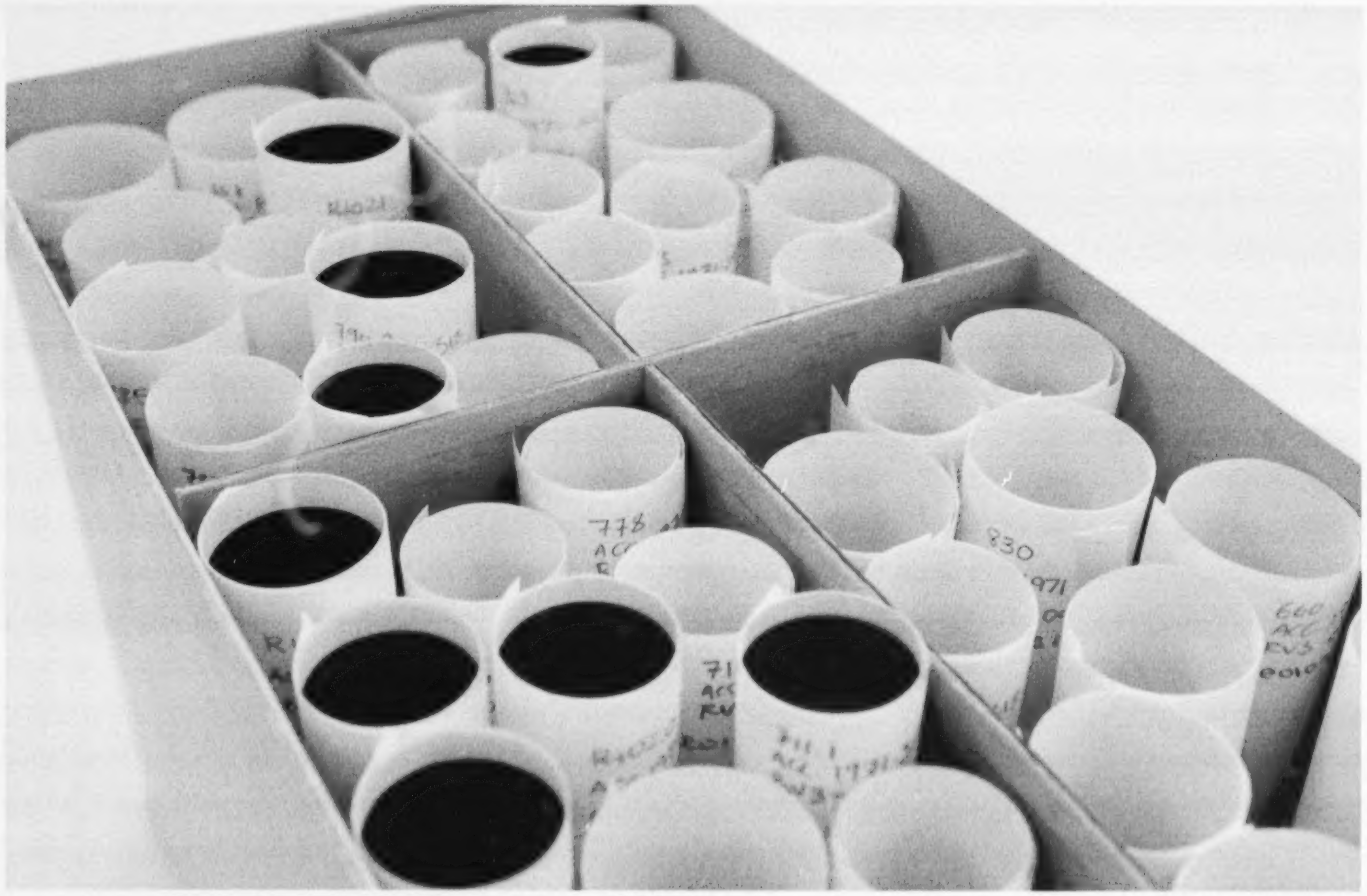
Glass plates are stored in Coroplast® suspension boxes. They have a spring-loaded bottom, which acts as a cushion to diminish any unexpected handling movements.

Link to Library and Archives Canada collection item

Related Media

PDF - Instructions for Storage Boxes: Glass Plate Negatives, Glass Lantern Slides and Autochromes

HOUSING FOR NITRATE PANORAMIC NEGATIVES



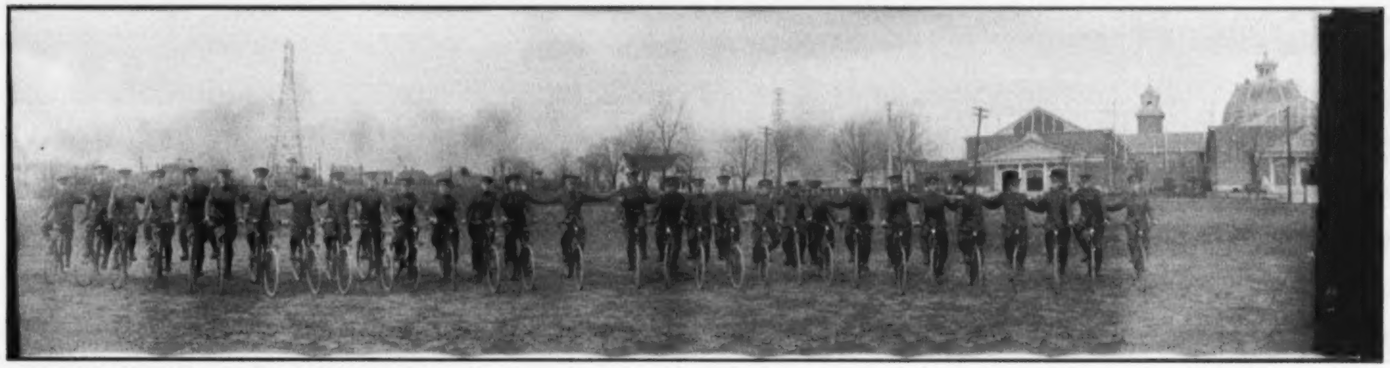
- Use nitrile gloves when handling nitrate.

- During processing, store nitrate negatives in a separate, well-ventilated area (such as a fume hood).

- Segregate nitrate negatives from the collection because they produce destructive chemical contaminants and corrosive gasses and can degrade the surrounding materials.

- Do not house in polyester or any other type of plastic. Plastic does not breathe and, as the negative deteriorates, the gasses cannot escape. The result is further accelerated deterioration.

- Use paper and board materials that meet both ISO 18902:2013 and ISO 18916:2007.



Link to Library and Archives Canada collection item

Related Media

PDF - Instructions: Paper Rolls for Nitrate Panoramas and Spacers for Photographic Boxes

STORAGE AND HOUSING FOR TRANSPARENCIES

- Sleeve colour materials individually.

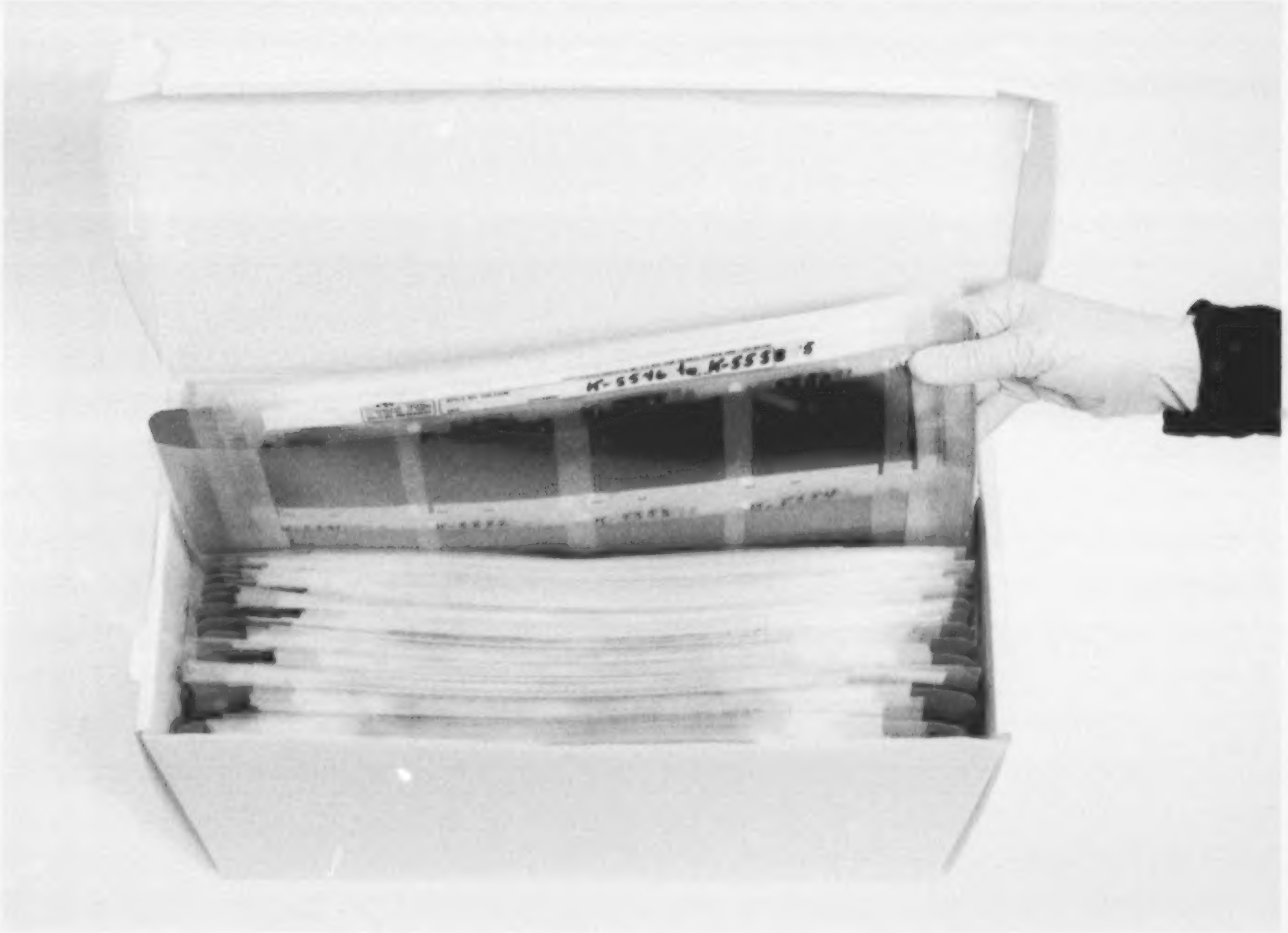
- Segregate any colour prints and negatives from the other parts of the collection and place in cold storage.

- Place colour transparencies into plastic sleeves or preservers of the appropriate size with the emulsion side down. Sleeves must not contain polyvinyl carbonate (PVC).

- Label each plastic sleeve using a permanent black marking pen.

- Place sleeves into plastic vertical files or expandable folders.

- Use Coroplast® containers, which can withstand the temperature in the cold vaults.



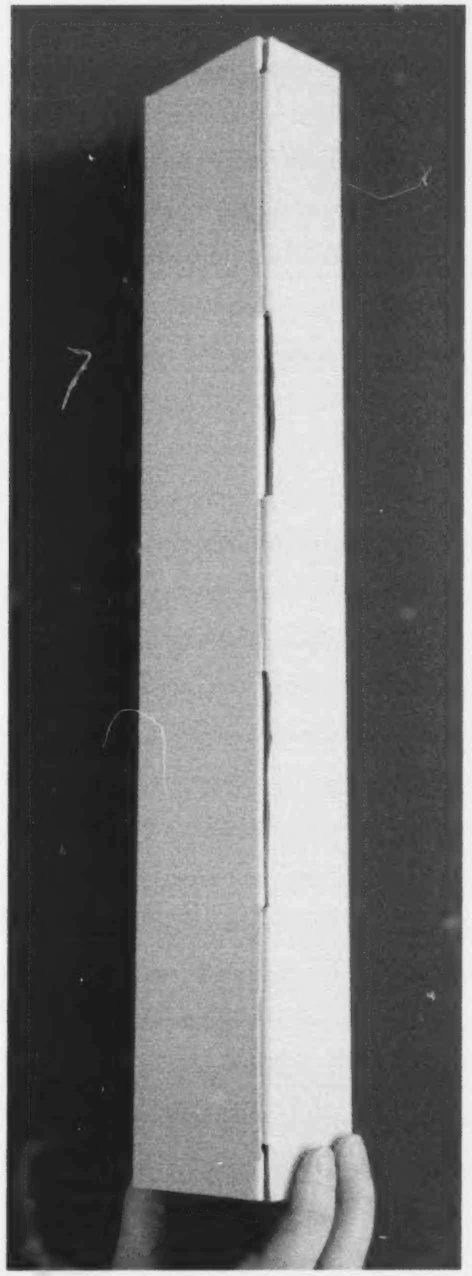
Credit: Gar Lunney

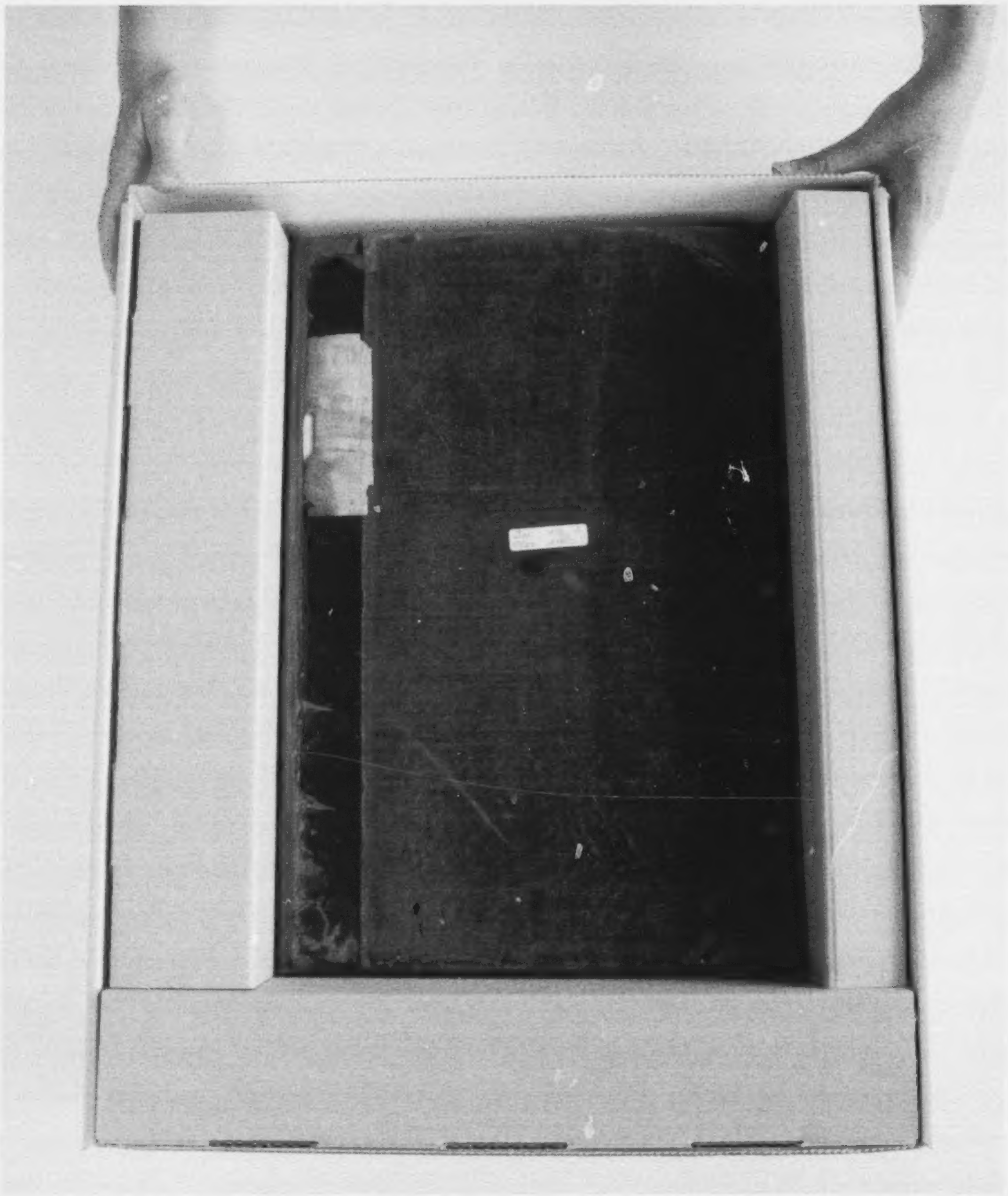
Link to Library and Archives Canada collection item

Related Media

ADHESIVE-FREE SPACERS

Adhesive-free spacers are used to position photographic albums / photographs in a storage box. These spacers prevent movement and may provide structural stability as well.



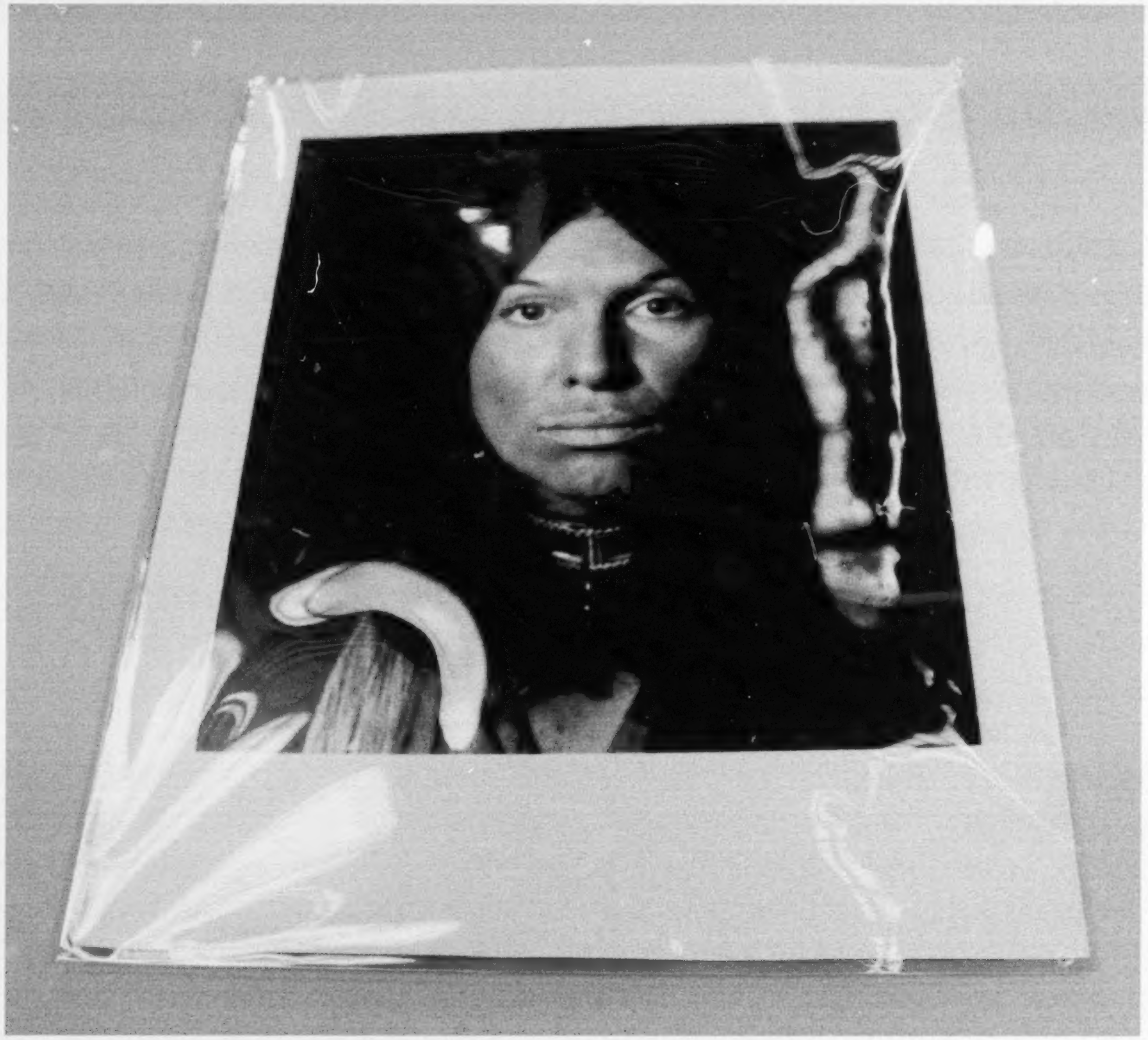


Link to Library and Archives Canada collection item

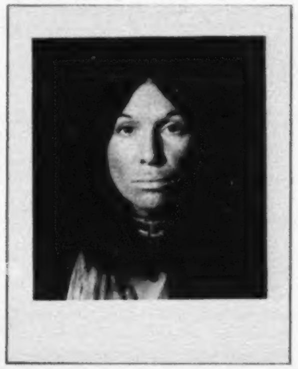
PDF - Instructions for Adhesive-free Spacers

PLASTIC ENCLOSURES

Plastic enclosures (uncoated and unplasticized polyester and polyterephthalate film, such as Mylar® Type D or Melinex® 516) are often used to store photographic material. Using these types of enclosures allows for visibility but may increase exposure to light. The enclosures are non-porous and act as a buffer when in contact with other materials. They carry an electrostatic charge, which can be detrimental to frail objects.



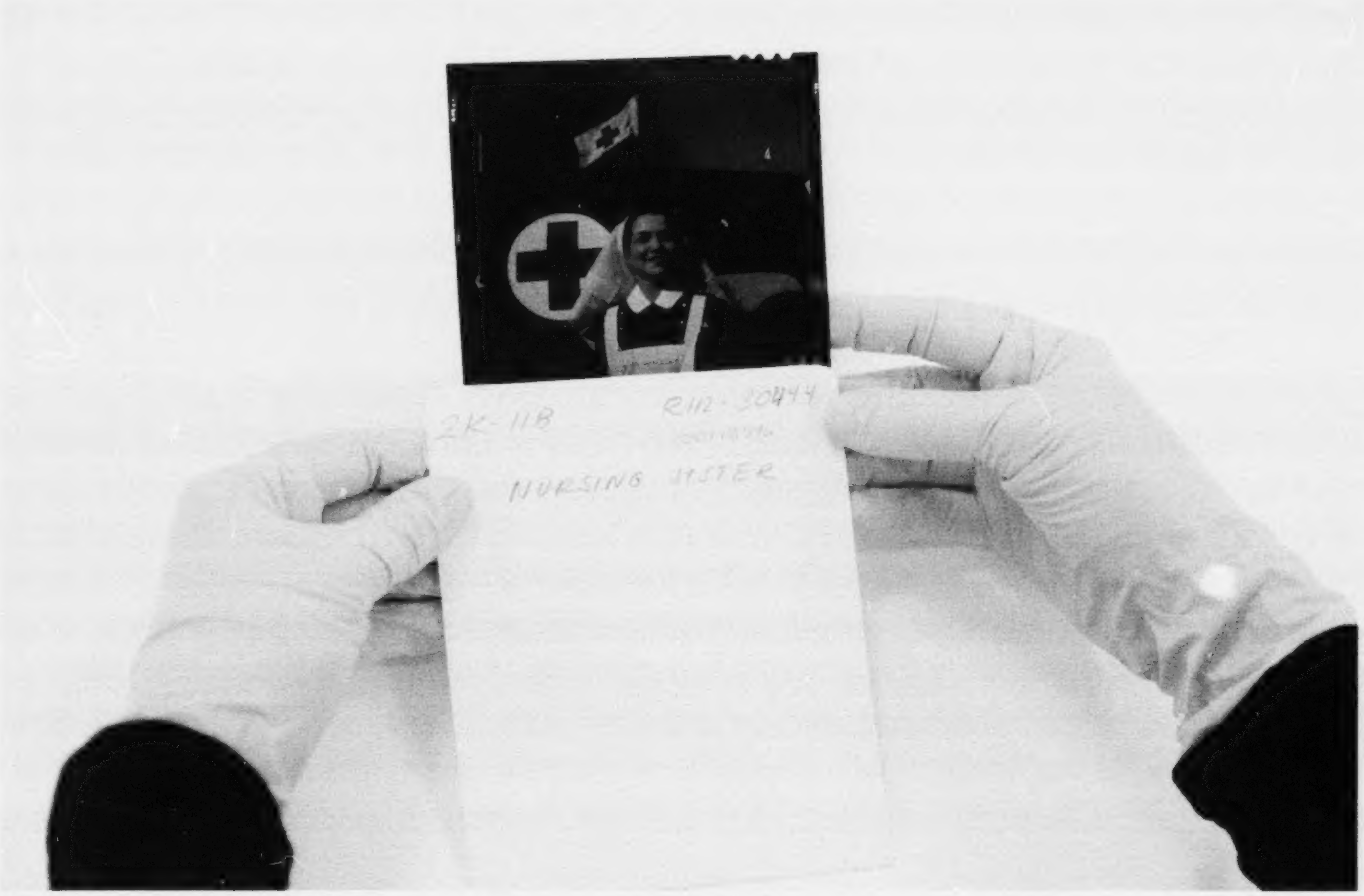
Credit: Robert Taillefer



Link to Library and Archives Canada collection item

Related Media

PAPER ENCLOSURES



- For stability of paper materials follow these two standards, ISO 18902:2013 and ISO 18916:2007.

- Photographs should be housed in acid-free and lignin-free, both buffered and unbuffered neutral, pH 7 envelopes.

- Contemporary colour material does not use buffered envelopes.

- Prints mounted onto secondary supports of poor quality, and deteriorated film-base negatives use alkaline buffered pH 8.5 envelopes.

- Individually sleeve one photograph per envelope.

- If necessary, sleeve no more than five prints of same size into one envelope.

- Completely enclose the photograph within the envelope. It should not be hanging out of the envelope.

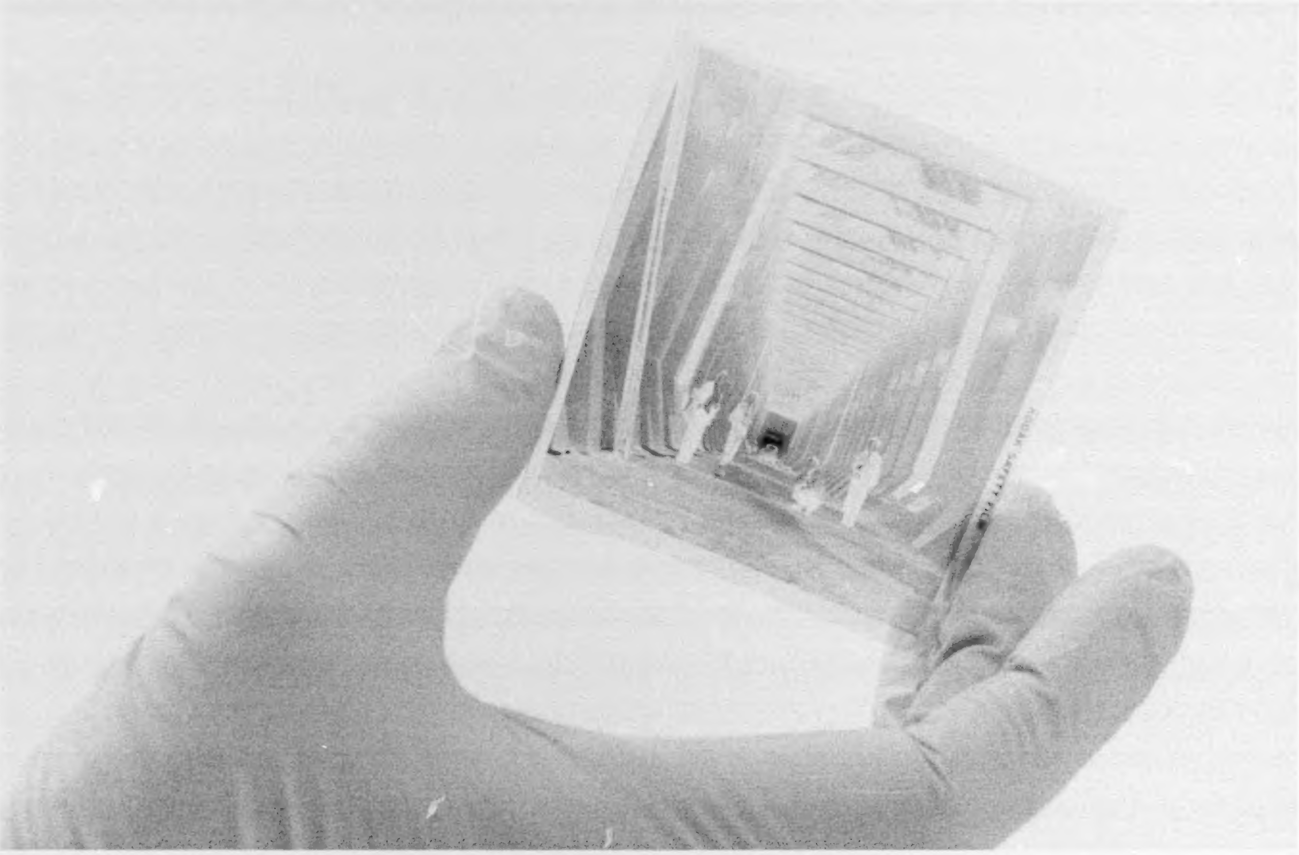
- Individually sleeve mounted prints. The hard surface of the board and weight can damage other prints.

- The paper enclosure should be the size of the container, less 1 cm, and not the size of the photograph. However, if the photographs are significantly smaller than the container, you can insert them into smaller paper enclosures and make inner spacers to hold them in the container.

Link to Library and Archives Canada collection item

Related Media

HANDLING OF FILM NEGATIVES



How to handle a film negative:

- Handle a negative by holding two edges.
- The emulsion side (the matte surface) must never be slid or rotated on any surface.
- If a negative must be moved, it should be lifted by two edges and repositioned.
- A negative should not be held overhead or at arm's length. Use a light table for viewing, but limit viewing to 15 minutes per object.
- If you use a loupe to view a negative, place a sheet of polyester film between the negative surface and the loupe.

Link to Library and Archives Canada collection item

Related Media

LABELLING CONTENTS OF ENCLOSURES

- Stickers should not be affixed onto photographs.

- Avoid using a pen or marker on the back of a print or on a negative.

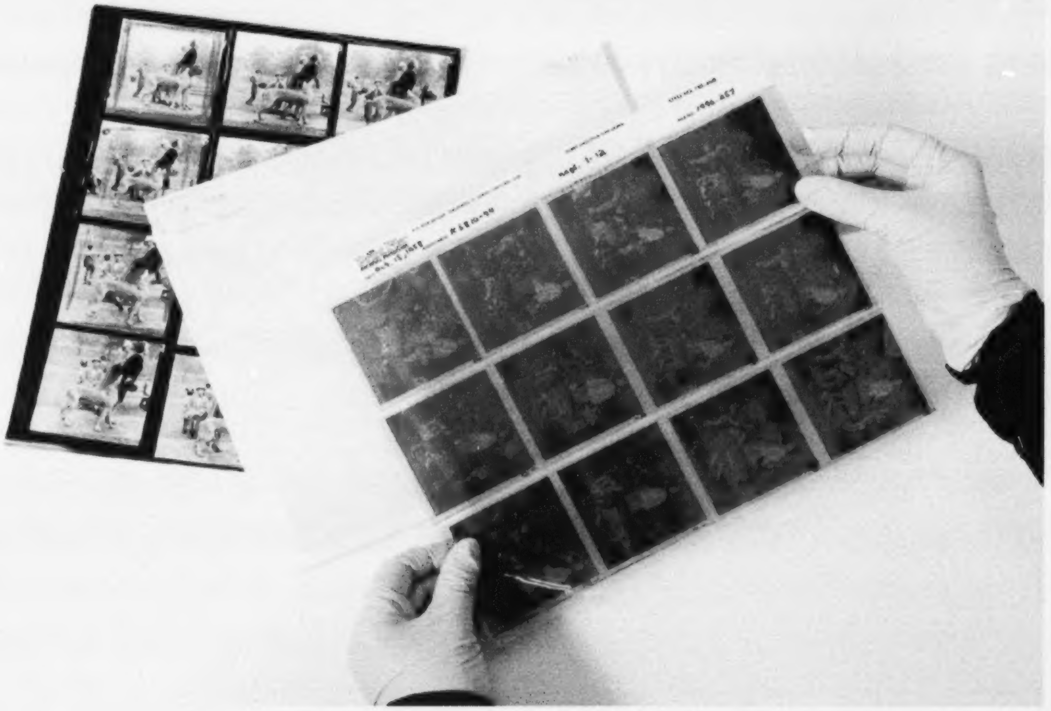
- If a print has to be labelled, use a 2B pencil to write the archival reference number and the print number in the bottom right-hand corner.

- Write as small and as legibly as possible. Always label prints lightly; excessive pressure or a sharp point on the pencil will leave a permanent imprint on the image surface of the photograph.

- Do not write on the back of a resin-coated photographic paper.

- Record identifying information on the enclosure before the photograph is placed inside to avoid leaving an impression in the emulsion layer.

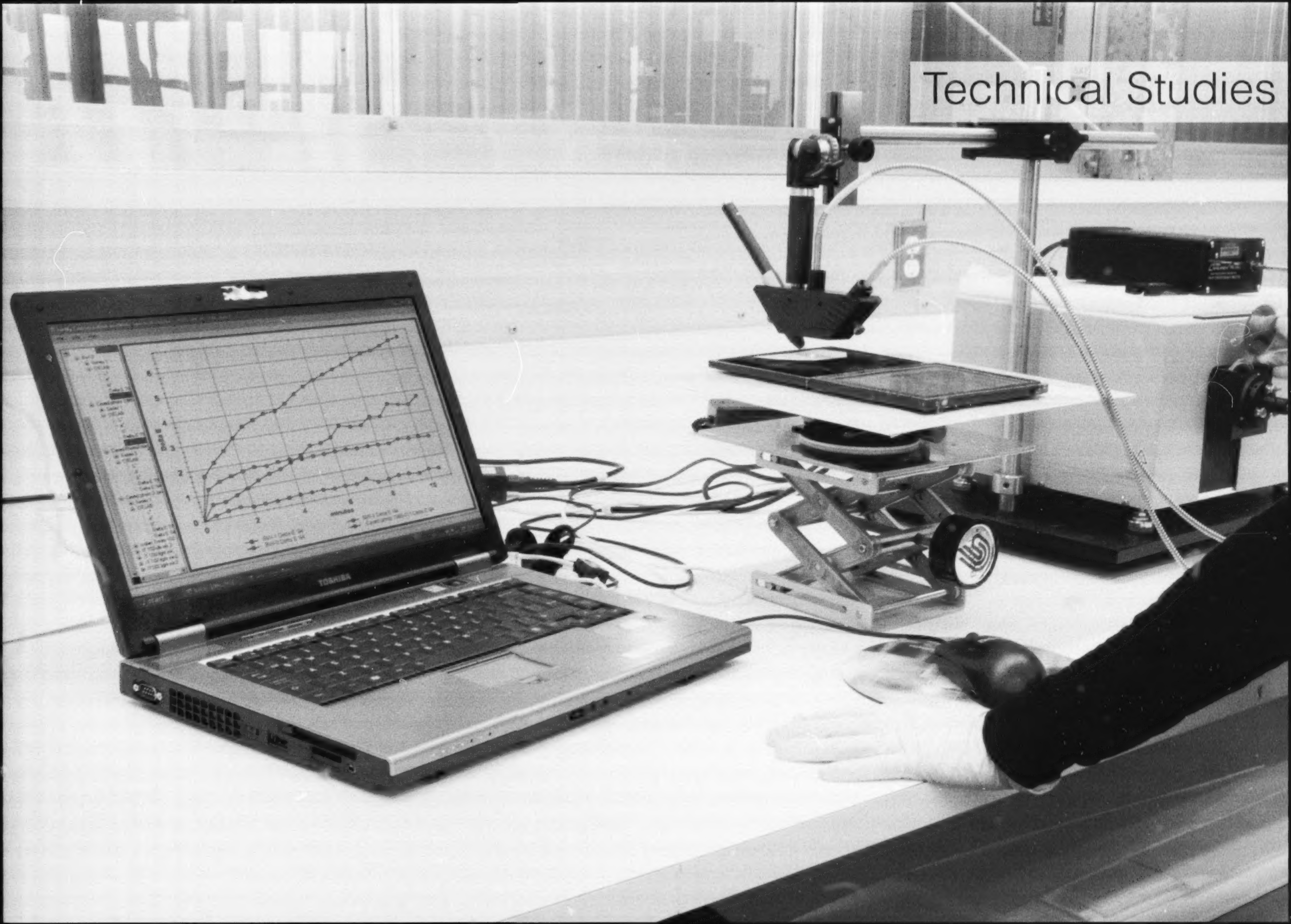
- Label plastic sleeves in the same manner, except use an approved permanent black marking pen that has passed the ANSI Photography Activity Test (PAT). Never use ballpoint, fountain or felt tip pens. Do not mark the record itself.



Credit: Ken Bell

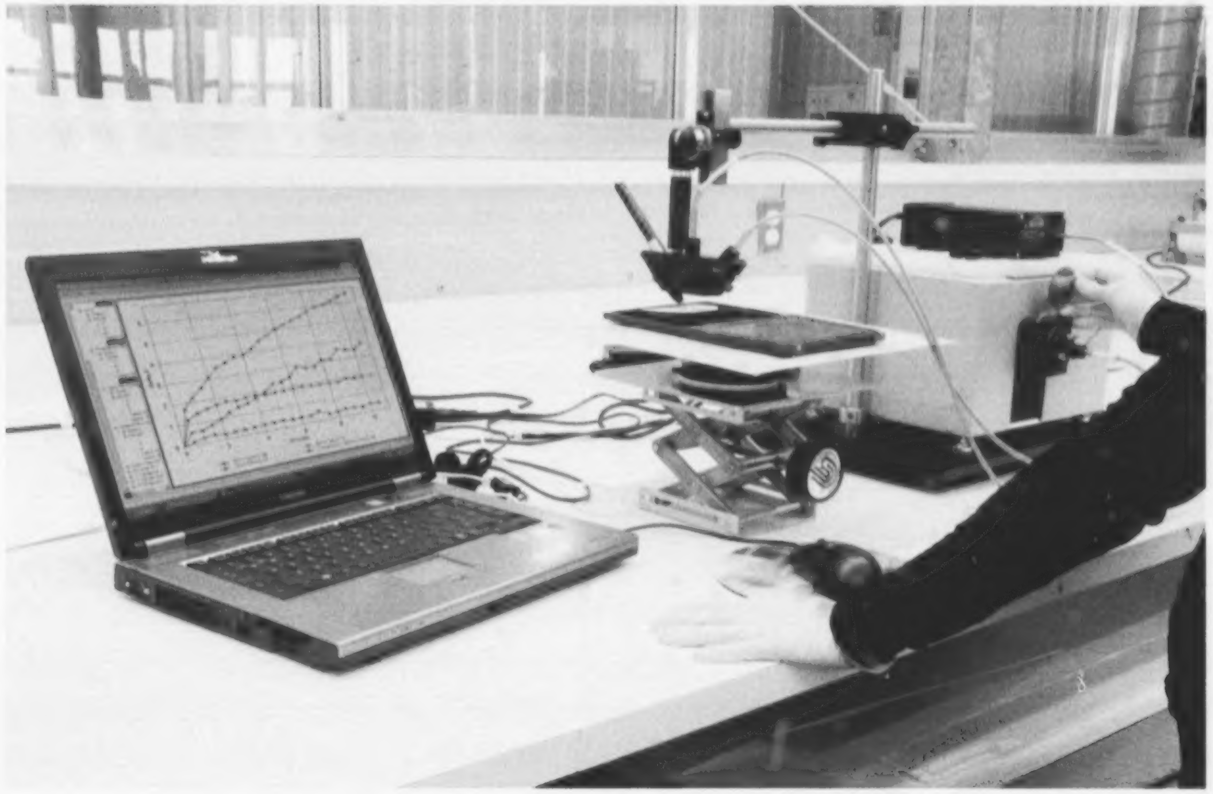
Link to Library and Archives Canada collection item

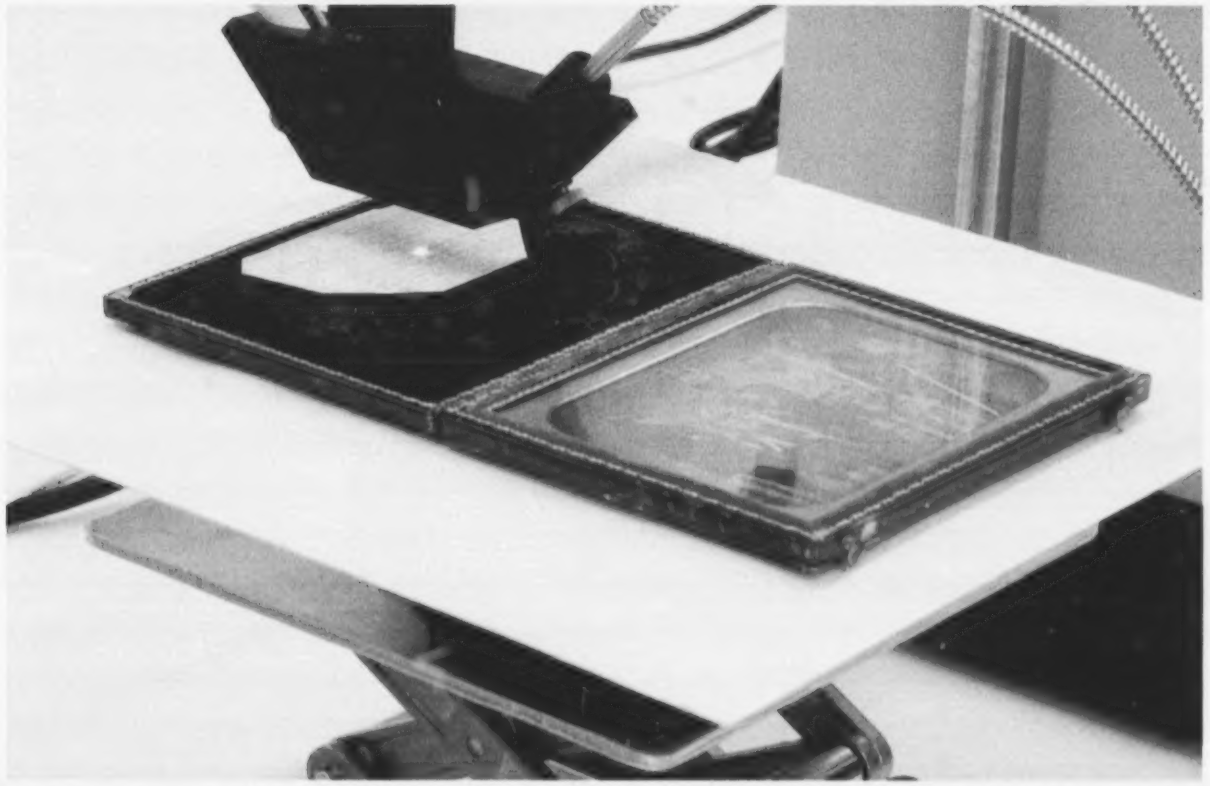
Technical Studies



MICROFADE TESTING

Microfade testing measures the accelerated fading of photographs and related materials. It is a highly precise and minimally destructive technique used mainly to identify colourants and materials that have a high sensitivity to light.





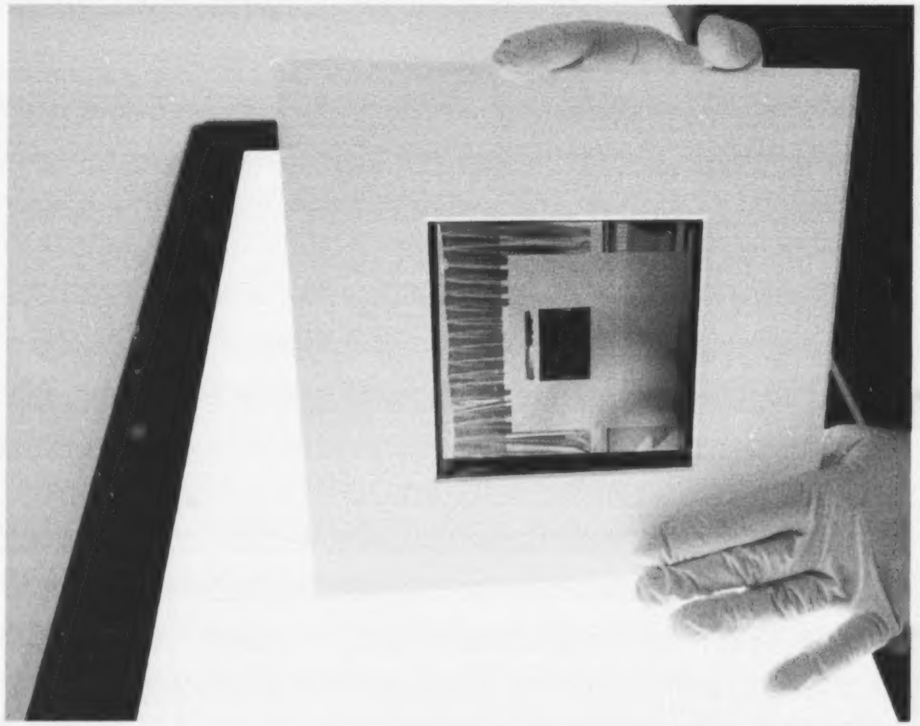
Link to Library and Archives Canada collection item

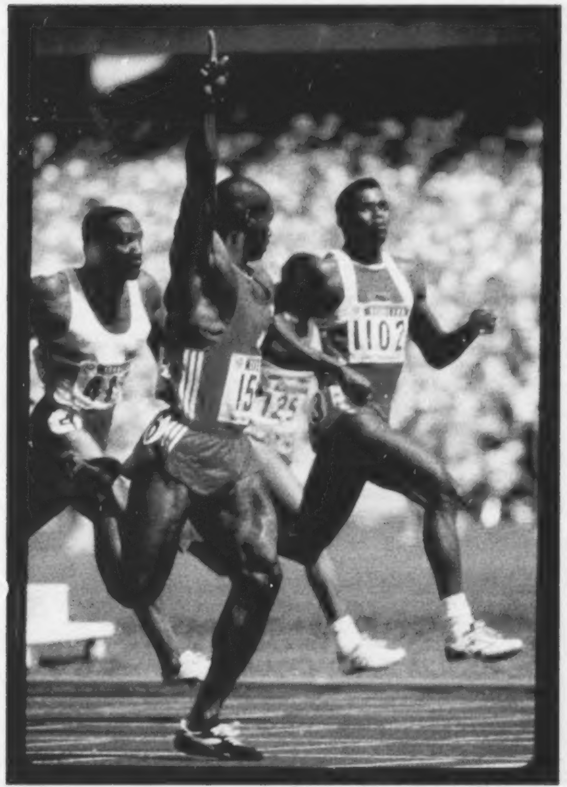
POLARIZING VIEWER

This non-destructive test can be used to determine if a negative is either cellulose acetate or cellulose nitrate rather than polyester. This test cannot differentiate between cellulose acetate and nitrate bases.

It is important to identify if a negative is polyester, since polyester is more stable than acetate.

Place the negative in question in a polarizing viewer or between two polarizing filters/films. To make a polarizing viewer see the pdf link below. Make sure that you observe the thinnest possible density of the negative through the polarizing viewer. The clear outer edge is a good choice. With the viewer polarized (the film looks black), hold the viewer up to a light source, while tilting to observe any colour change. If no rainbow colours are visible, the negative is on an acetate support. If a pattern of pink, blue, green rainbow effect becomes visible, then the negative support is polyester. This occurs because polyester film is highly birefringent and easily identified by interference patterns (i.e. rainbow colours) that are produced when the film is viewed through polarizing filters.





Credit: Ted Grant

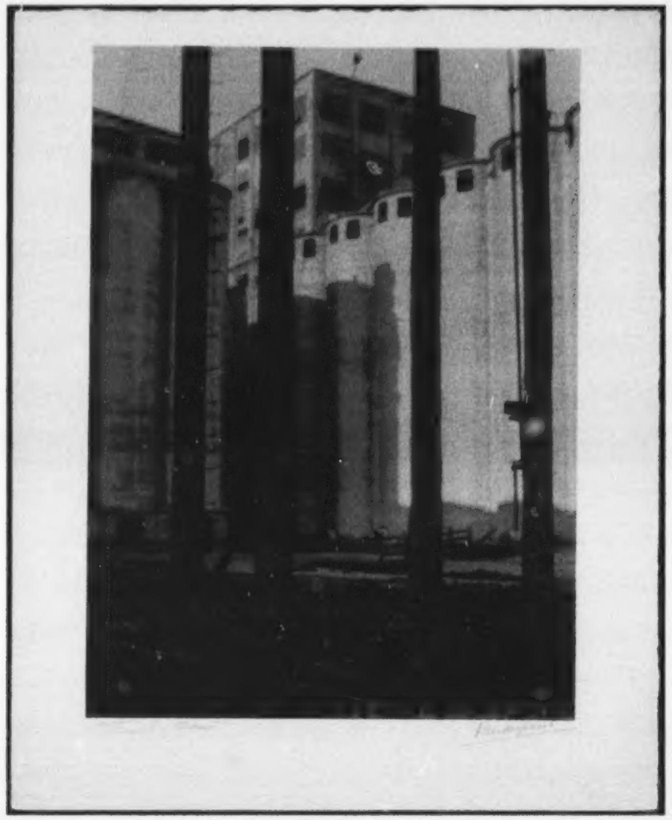
Link to Library and Archives Canada collection item

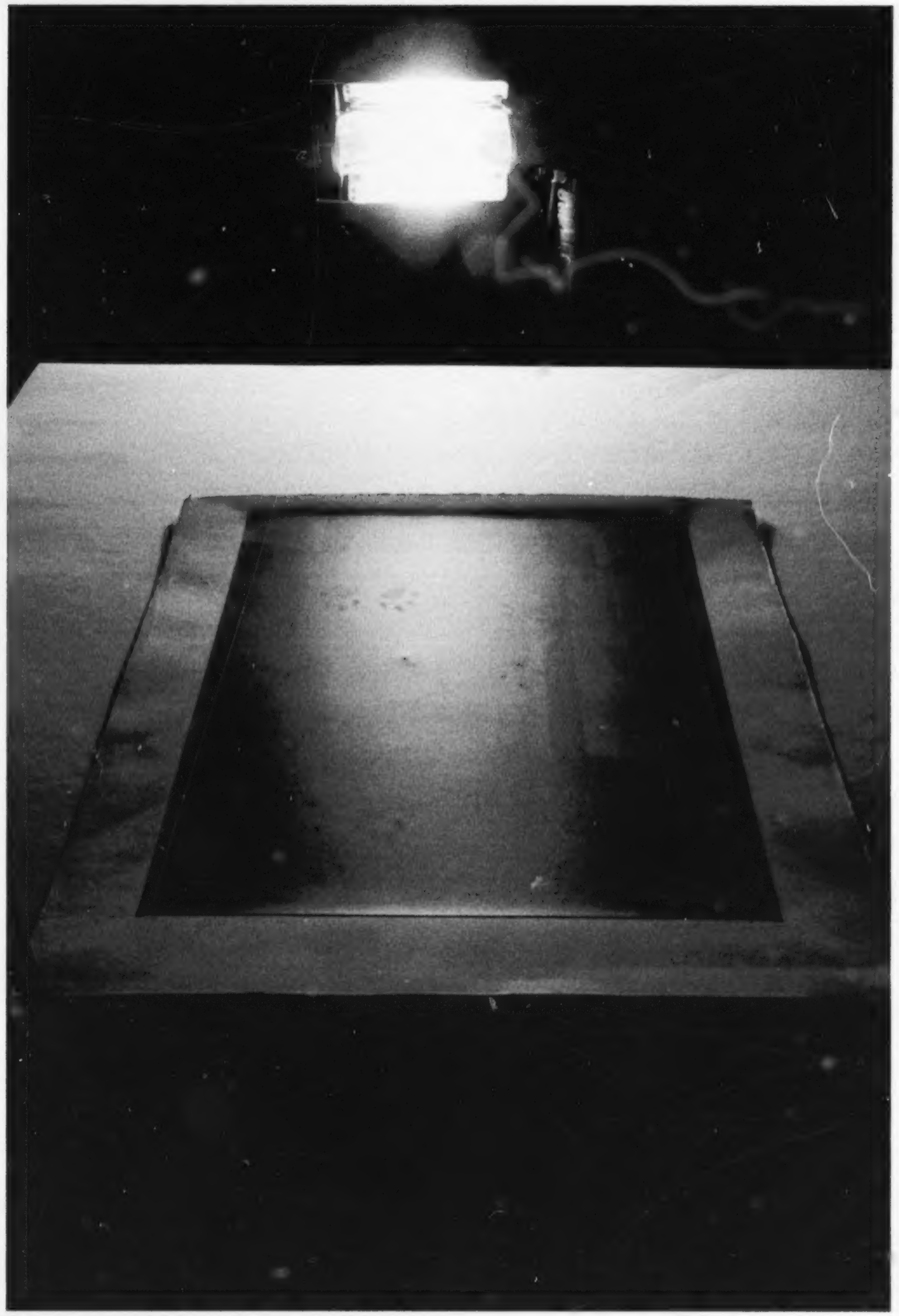
PDF - Instructions: Polarizing Viewer

RAKING LIGHT

Raking light is a light source that is positioned on one side of the photograph so that the light falls or rakes across the surface. This lighting technique accentuates textures and planar deformations of the photograph.

Here you can see that a cat has walked across the surface of this photograph, leaving its paw prints on the emulsion.





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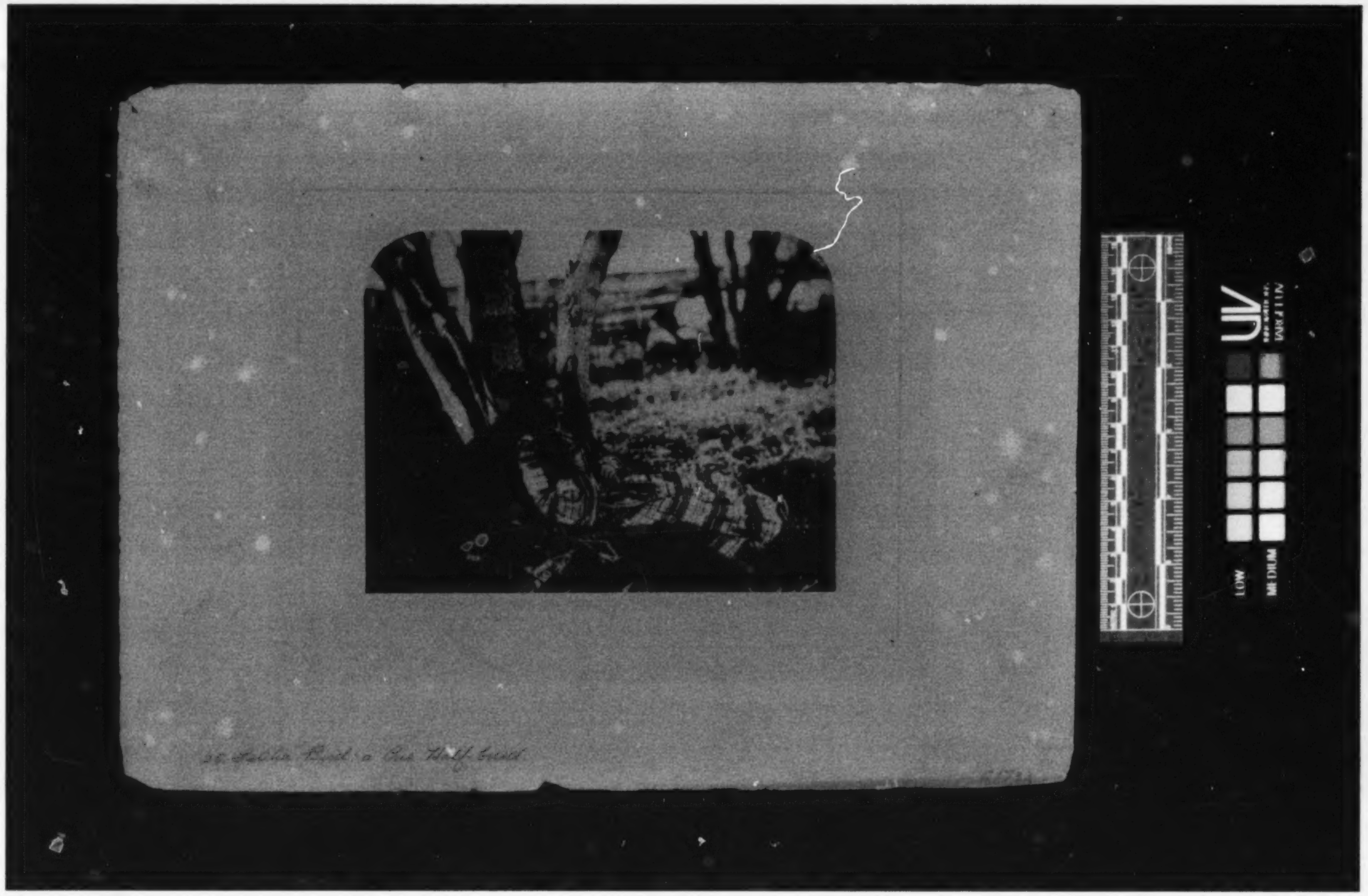
FLUORESCENCE

Fluorescence is the emission of light by a substance that has absorbed light during an exposure of radiation of a different wavelength, such as an ultraviolet light or black light. In conservation examinations it is often used to identify coatings, optical brightening agents, tarnish on daguerreotypes, re-touching materials, mould, foxing, tape and adhesive stains, protein glues and oils, varnishes and certain pigments and dyes.



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Related Media

TRANSMITTED LIGHT

Transmitted light is a light source that is positioned beneath or behind the support so that the light shines through the fibre matrix and media, watermarks, chain lines, etc.

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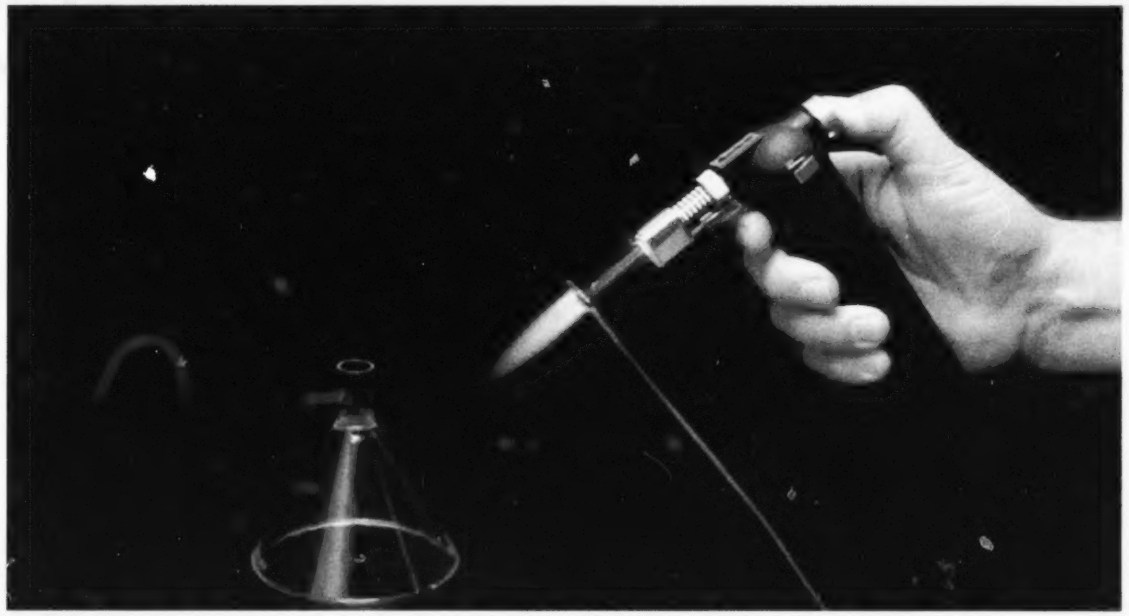
Related Media



PLASTIC TESTING

Testing different types of plastic is essential to determine if the plastic is harmful for the photograph. This is the Beilstein test method.

When heating a copper wire, melt the plastic in question onto the copper wire. Then place the copper wire with the melted plastic into a flame. If the flame burns blue, the plastic contains bromide and is therefore safe for photographs. If the flame burns green, the plastic contains chlorine and should not be in contact with photographs.

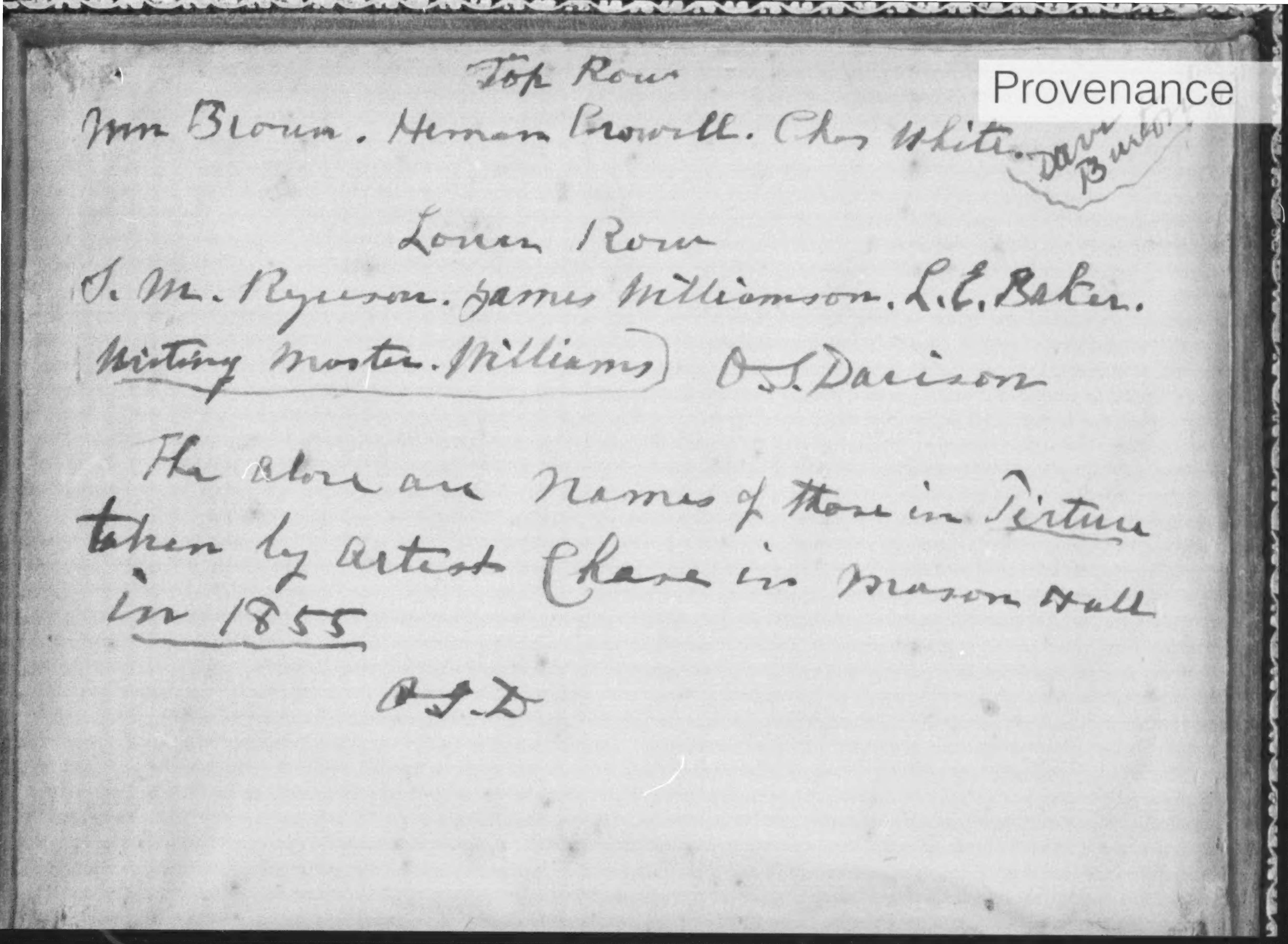
Link to Library and Archives Canada collection item

Related Media

VISUAL INSPECTION UNDER BINOCULAR MICROSCOPE

A visual examination under a binocular microscope provides a more accurate means of examining photographic materials than is possible with the unaided eye. In some cases this technique is essential for identification purposes and can aid in the conservation assessment.

Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website



Provenance

Top Row

Wm Brown. Herman Browell. Chas White. Dave Burto

Lower Row

J. M. Ryerson. James Williamson. L. E. Baker.

Writing Master. (Williams) O. S. Davison

The above are Names of those in Picture taken by Artist Chase in Mason Hall in 1855

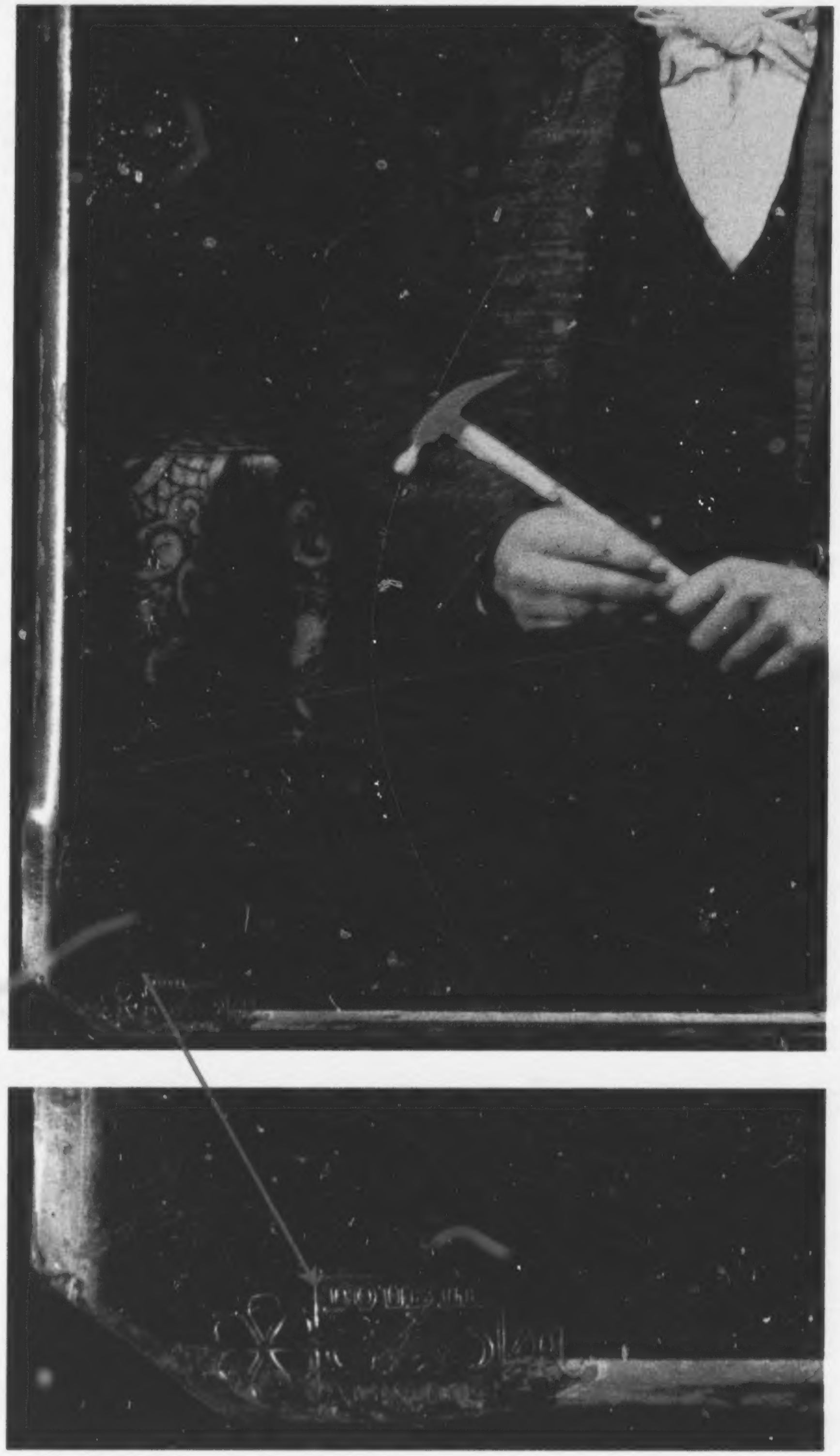
O. S. D.

PLATE MARK

These are stamped marks found on many, but not all daguerreotypes. These stamps are usually located along the exterior edges of the plate, making them invisible when the daguerreotype is sealed with a brass or paper mat. Plate marks usually consist of initials, symbols and sometimes numbers. The number most commonly found is 40, indicating 1 part silver to 39 parts copper, the physical makeup of the plate. These plate marks can also aid in dating the images.

An interesting plate mark was found on a daguerreotype entitled *The Carpenter in Canada*, taken circa 1850 by an unknown photographer. The plate mark is located in the bottom left corner and includes a six-petal flower as well as the word "DOUBLÉ". Below this is a stamp of a lamb with a cross, known as a "Paschal Lamb". Below this is the name "A.GAUDIN" and the number 40.

Research indicates that the manufacturing company was Alexis Gaudin & Bro., from France. It is unknown when manufacturing began, but the plates were in production until at least 1856. This plate was widely used in North America around 1850 to 1855, with the peak year being 1853. This corresponds to the portrait's estimated date of 1850. The word "DOUBLÉ" in this case means that it is plated silver, rather than dipped, a manufacturing process of daguerreotypes. Once again, the number 40 denotes the portion of silver to copper found in the plate.



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Related Media

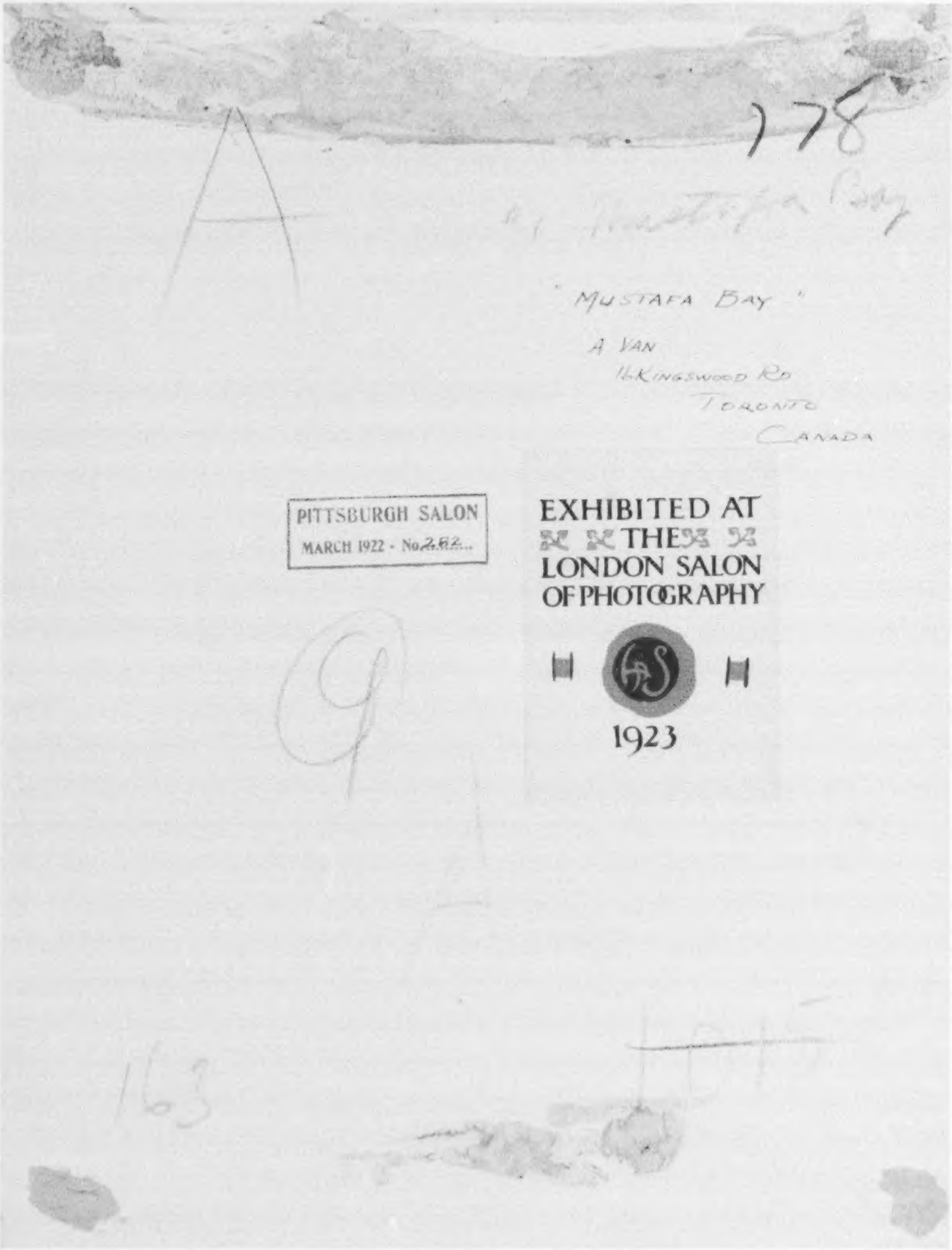
EXHIBITION STAMPS / LABELS

Various stamps and stickers on the back can be used to determine when a photograph was on exhibition. They can be used as supportive material to place a photograph in a historical content.

On the back of this item there is a stamp and a sticker. According to the stamp, this item was at the Pittsburgh Salon in March 1922. There is also a sticker that proves the photograph was exhibited at the London Salon of Photography in 1923.

This provides useful information about the history of this photograph. As this photograph was created in 1918, the exhibition stamp and sticker correspond with this date.

Link to Library and Archives Canada collection item



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A

Mustafa Bay

"MUSTAFA BAY"

A VAN
16 KINGSWOOD RD
TORONTO
CANADA

PITTSBURGH SALON
MARCH 1922 - No. 262

EXHIBITED AT
THE
LONDON SALON
OF PHOTOGRAPHY
1923

9

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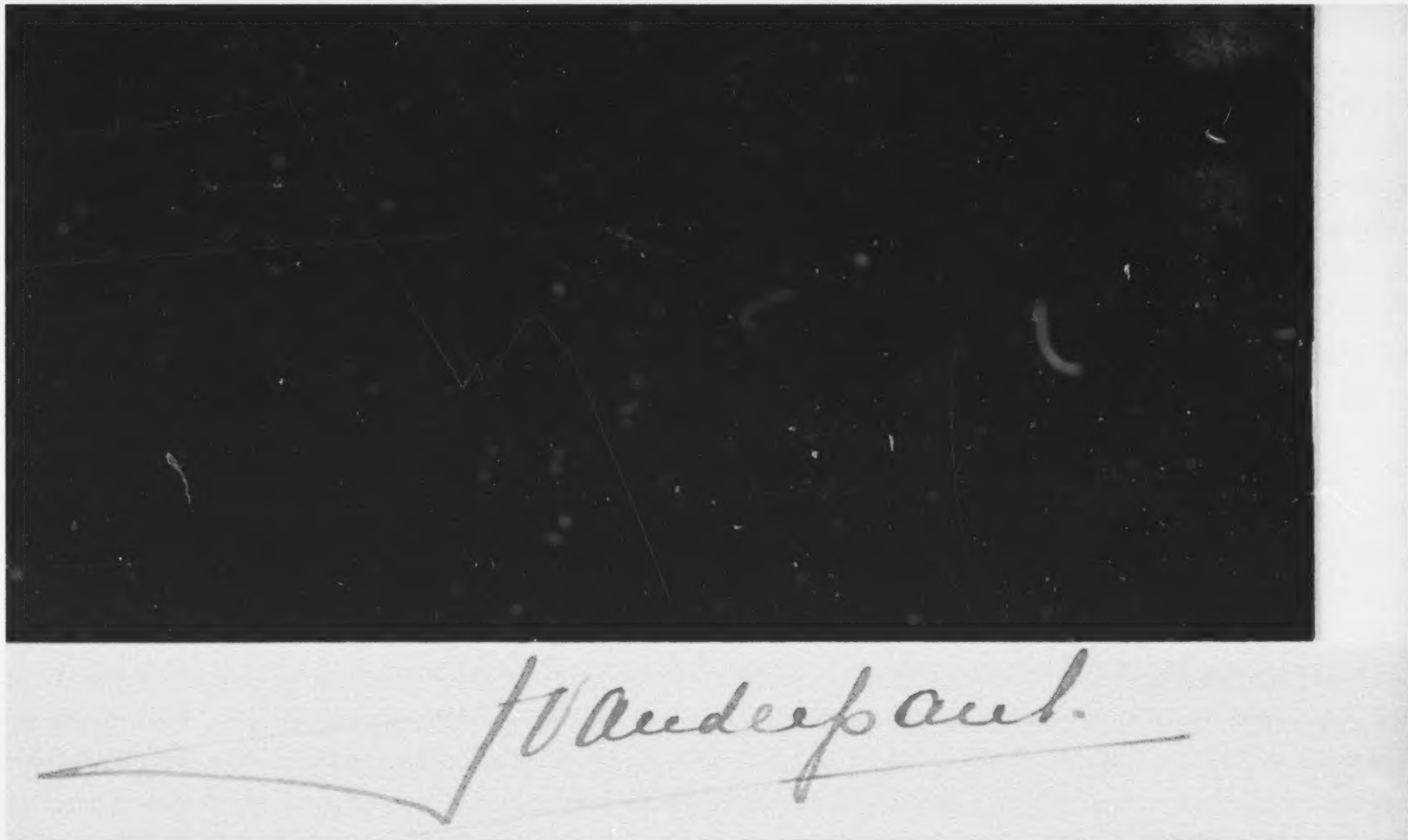
ARTIST SIGNATURE

Using a catalogue raisonné, a photographer's signature can be traced to other known signatures of the same photographer. This is the signature of John Vanderpant, who had a major influence on Canadian photography in the 1920s and 1930s.



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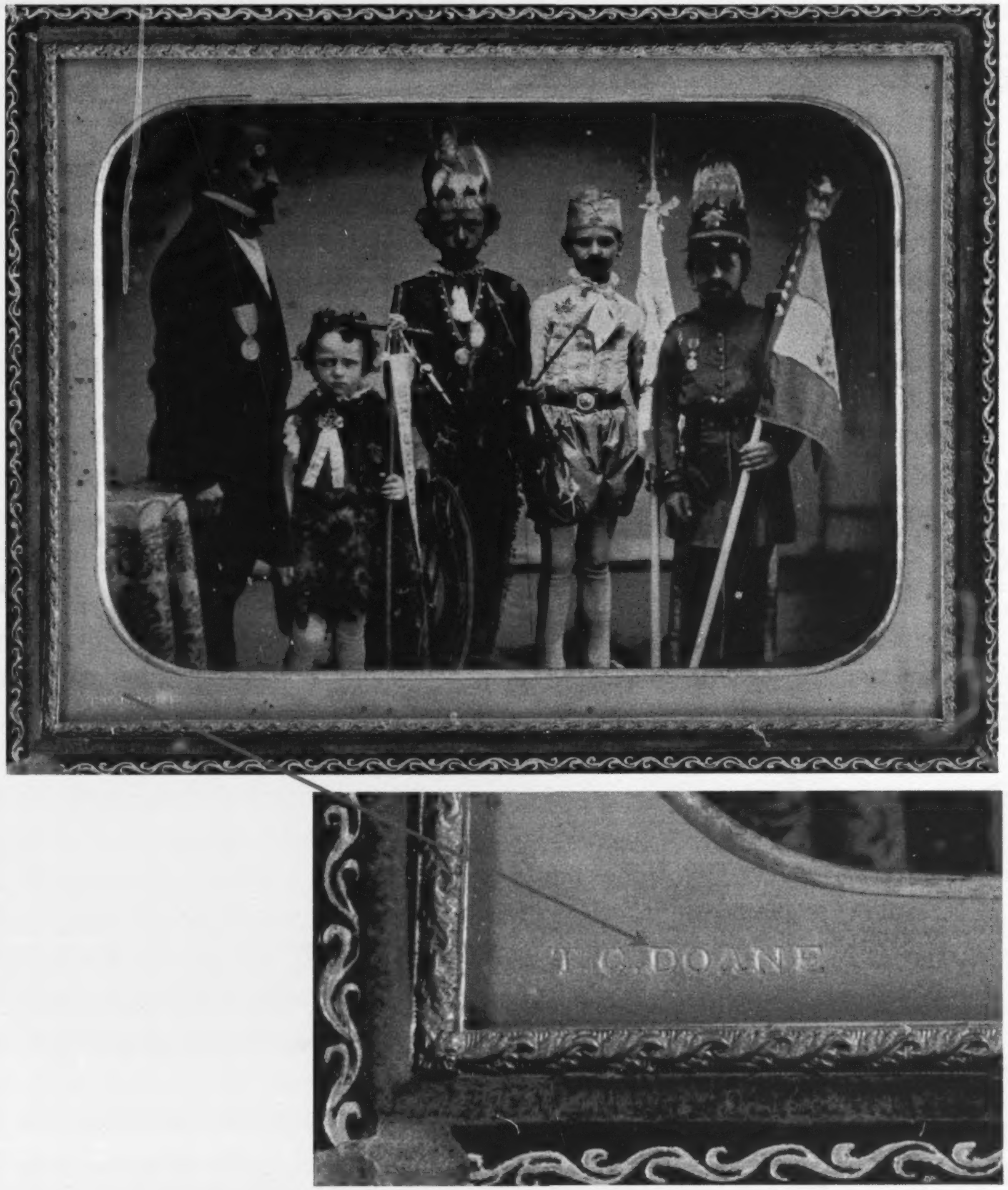
STAMP ON BRASS MAT

A stamp of a name in the brass mat can identify the photographer, if the brass mat has not been previously changed.

Here, the stamp reveals the name T. C. DOANE. Doane was a successful daguerreotypist in Montréal in the 1840s, known for his portraits of prominent Canadians.



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INSCRIPTIONS

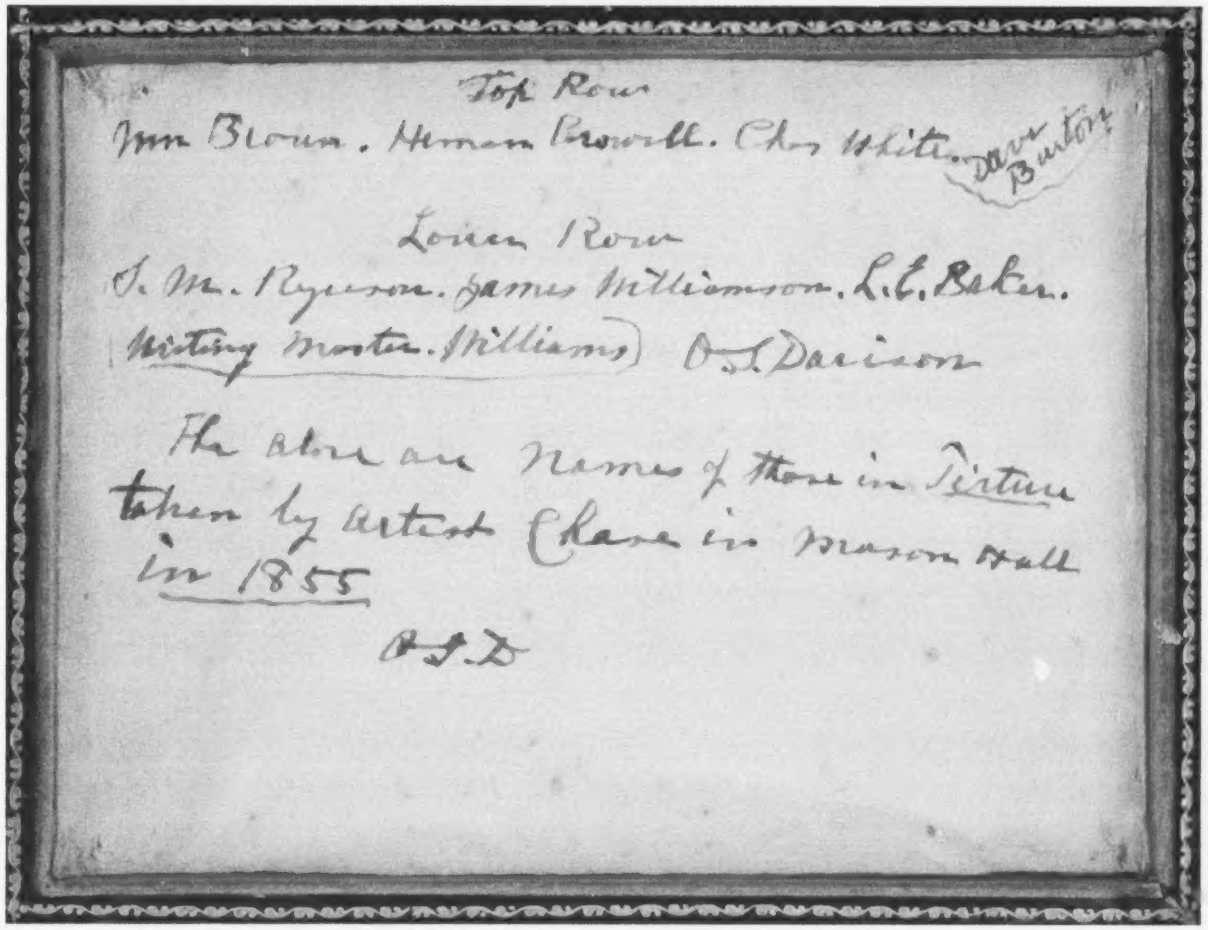
Inscriptions are used to identify the sitters, date and place of photographs.

A good example is the portrait of a group of merchants from Yarmouth, Nova Scotia. This handwritten inscription is inside the leather case, hidden from view when the daguerreotype is in the case. It is signed by one of the sitters and lists all the members of the group, as well as the location of the sitting and the name of the daguerreotypist, Wellington Chase.

It reads:

Top Row
Wm. Brown. Herman Crowell. Char White. Dave Burton.
Lower Row
S.M. Ryerson. James Williamson. L.E. Baker.
Writing Master Williams   O.S. Davison
The above are names of those in picture
taken by artist Chase in Mason Hall
in 1855

O.S.D.



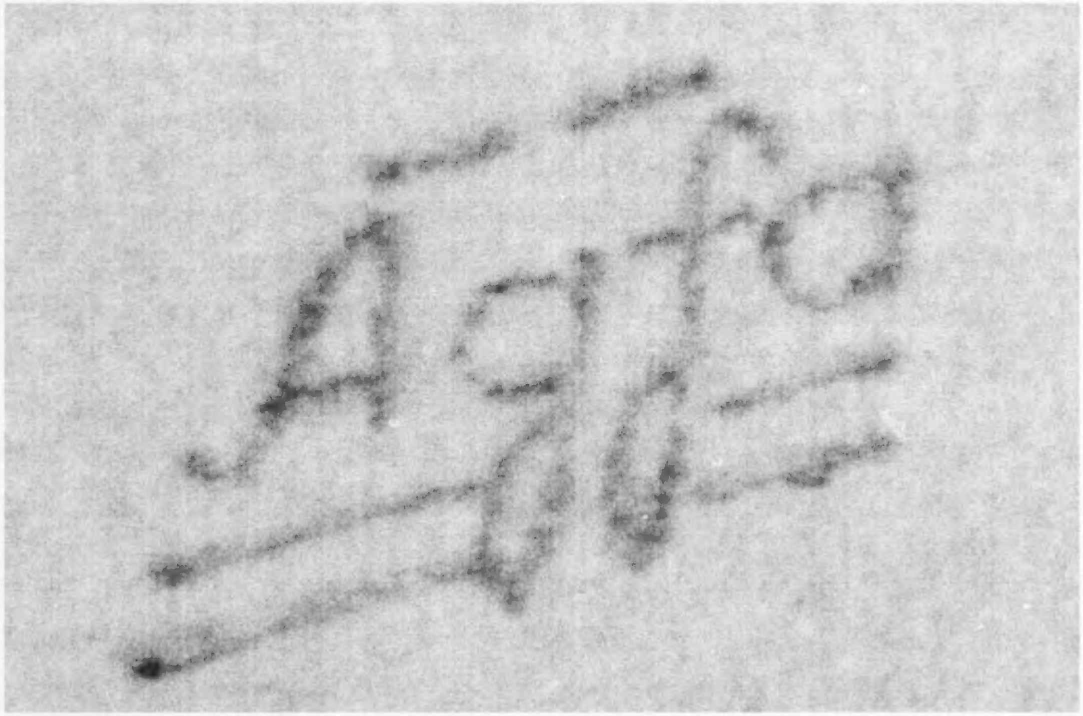
Top Row
Wm Brown. Herman Crowell. Chas White. Dave Burton
Lower Row
S. M. Ryerson. James Williamson. L.E. Baker.
Writing Master. Williams) O.S. Davison
The above are Names of those in Picture
taken by artist Chase in Mason Hall
in 1855
O.S.D

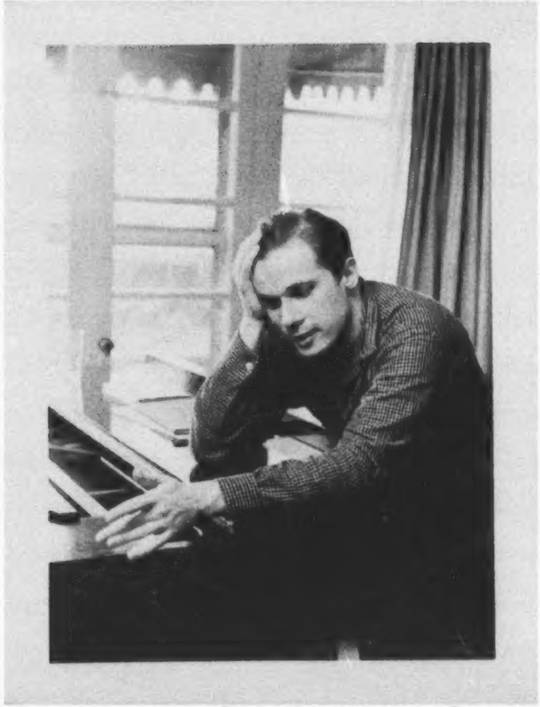
Link to Library and Archives Canada collection item

Related Media

PAPER BACKPRINTING

Paper backprinting is an integral part of photographic paper. Paper manufacturers would print their brand names on the back of their photographic paper. They would often change acronyms or underlines or spaces over time. These changes in backprinting have been catalogued and can be used to help identify when the papers were made, but not necessarily when the photographs were actually taken. On the back of the photograph the AGFA symbol is repeated. This particular paper type was available during the 1960s corresponding to the known date of printing, which was1961.





Credit: Walter Curtin

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Related Media

Credits

CREDITS

Unless otherwise specified, Library and Archives Canada's photographs and videos were by created by Tom Thompson.

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Page 7 - Unknown, [Portrait de couple], circa 1855
Hand coloured Tintype
Collection Musée Carnavalet – Histoire de Paris, PH14421
Reproduction: © ARCP/Mairie de Paris/Credit: Jean-Philippe Boiteux, 2015

Page 10 - Unknown, Antoine Bourdelle (1861-1929) assis dans les stalles de son atelier, années 1920
Collection Musée Bourdelle, MBPH.91
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Page 12 - Mrs. Freeman and her prize turkey of the Fraser Valley, B.C., nd. Credit: Canada. Dept. of the Interior/Library and Archives Canada

Page 14 - Unknown, Jeune femme en costume traditionnel sous un arbre en fleurs- Jardin méditerranéen
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Page 16 - House being moved, Bonavista Bay, Newfoundland, 1961.
Credit: Bob Brooks/Library and Archives Canada

Page 17 - Rodolphe Hammadi, Série escalier. Hôtel de Beauvais, 68 rue François-Miron, 4ème arrondissement, 1983-1986, Beny Karmasine
Chromogenic print
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Petit Palais, Paris, 2010
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Page 55 - X-ray of Veronica Tennant's feet, 1976
Credit: Image courtesy of Veronica Tennant, C.C. Prima Ballerina National Ballet of Canada, 1964-1989

Page 56 - Quebec bridge before the fall of the centre span, Quebec, 1916
Credit: Cedric Morris/Library and Archives Canada

Page 59 - Mountain Legacy Project

Page 60 - Credit: Carla Klück/Library and Archives Canada

Page 61 - Girl sitting at a desk, flipping through a textbook, Ottawa, Ontario, 1961.
Credit: Gar Lunney/Library and Archives Canada

Page 63 - Buffy Sainte-Marie, 1975
Credit: Robert Taillefer/Library and Archives Canada

Page 64 - Credit: Department of National Defence/Library and Archives Canada

Page 65 - Negative of Anna Brown, Helen Salkeld, Audrey James and Rosemary Gilliat below an ore dock, 1954
Credit: Rosemary Gilliat Eaton/Library and Archives Canada

Page 66 - Illustration for a Star Weekly ad showing two women walking a Great Dane in High Park, Toronto, Ontario, 1958
Credit: Ken Bell/Library and Archives Canada

Page 69 - Ben Johnson winning the 100-metre sprint, 24th Summer Olympics, Seoul, 1988
Credit: Ted Grant/Library and Archives Canada

Page 74 - © ARCP/Mairie de Paris/Credit: Constance Asseman, 2016

Page 81 - Portrait of Glenn Gould, 1961
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675
348
406
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ACKNOWLEDGEMENTS

Lingua Franca: A Common Language for Conservators of Photographic Materials was created by Library and Archives Canada (LAC) in collaboration with the Atelier de Restauration et de Conservation des Photographies de la Ville de Paris (ARCP). This enhanced eBook is the result of contributions from many divisions at LAC: Exhibitions and Online Content, Collections Management, Society and Culture, Digitization Services, Public Affairs, and Linguistic Services. Special acknowledgement to Tom Thompson, who spearheaded the project; Tania Passafiume, who provided content; Jill Delaney, Archivist, Photography, who assisted in the curation and for the ARCP: Anne Cartier-Bresson, Director; Laetitia Couenne, Archivist; Constance Asseman, Photographer, for their contributions.

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LINGUA FRANCA: A COMMON LANGUAGE FOR CONSERVATORS OF PHOTOGRAPHIC MATERIALS
SB4-43/2018E-PDF

LIBRARY AND ARCHIVES CANADA

Our Mandate

Library and Archives Canada (LAC) combines the holdings, services and staff of both the former National Library of Canada and the National Archives of Canada. As outlined in the Preamble to the Library and Archives of Canada Act, LAC's mandate is as follows:

-to preserve the documentary heritage of Canada for the benefit of present and future generations;

-to be a source of enduring knowledge accessible to all, contributing to the cultural, social and economic advancement of Canada as a free and democratic society;

-to facilitate in Canada co-operation among communities involved in the acquisition, preservation and diffusion of knowledge;

-to serve as the continuing memory of the Government of Canada and its institutions.

As of 2016, Library and Archives Canada has approximately 30 million photographic items in its collection, including photographic prints and photographic negatives, as well as more historic items (daguerreotypes, ambrotypes and autochromes), colour transparencies, slides and, lastly, some digital photographs.

Link to Library and Archives Canada website

ATELIER DE RESTAURATION ET DE CONSERVATION DE PHOTOGRAPHIES DE LA VILLE DE PARIS (ARCP)

Credit: Estelle Poulalion

Created in 1983 within the Department of Cultural Affairs of the City of Paris, the Atelier de Restauration et de Conservation des Photographies de la Ville de Paris (ARCP) implements the preservation and valorization policy for the City's photographic heritage, which represents about 13 million photographs, conserved in its museums, libraries and archives.

The ARCP, managed by Anne Cartier-Bresson, is composed of five sections - registration, preventive conservation, remedial conservation-restoration, reproduction and documentation - providing several services such as condition surveys and collections care advice, specific conservation treatment of historic or fine art photographs, preparation and protection procedures before digitalization, reproduction of original negatives and prints, technical assistance during exhibitions, exhibition curating etc.

The ARCP takes also part in advanced research and dissemination of knowledge in the field of photographic preservation and conservation, in France or abroad, offering specific training, welcoming interns, opening its documentation center to researchers, and publishing reference books as Le Vocabulaire Technique de la Photographie edited by Anne Cartier-Bresson (Marval/Paris Musées, 2008).

Link to Atelier de Restauration et de Conservation des Photographies de la Ville de Paris website